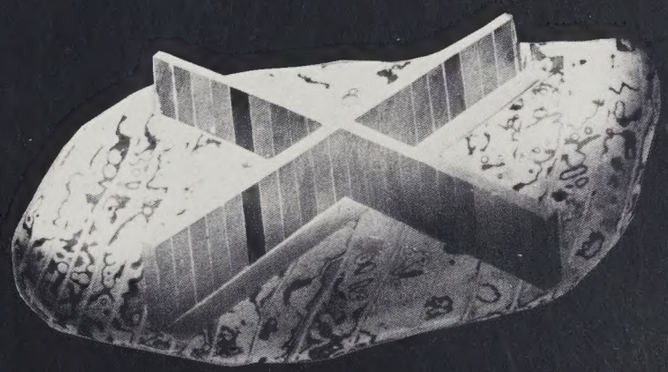
Metalsmith

Fall 83 volume three number four $5.00

Master Metalsmith: John Prip
Anodizing Update
Platinum Design Awards
Towards a New Iron Age
Kenneth Bates on Slowness



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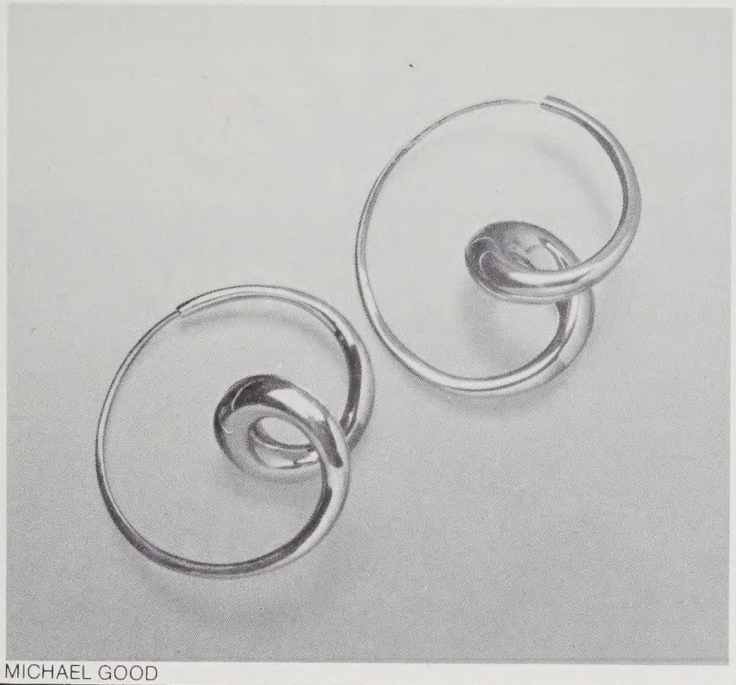
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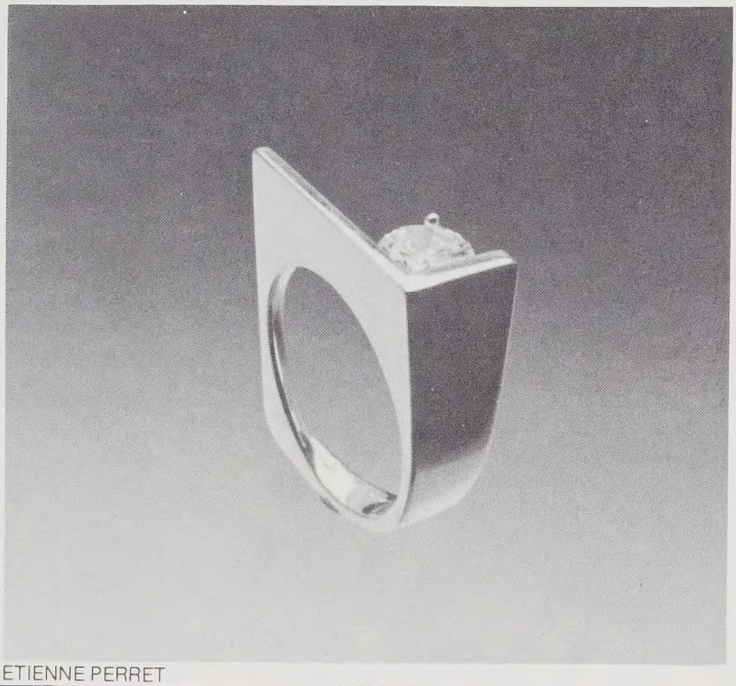
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This juried event will be held at the American Craft Museum in New York City from June 1 to August 30, 1984.
Judging will be by slides which will be due the first of February of next year.
This exhibition is open to all artists and designers working in the jewelry field.
Entry forms will be available October first from the Society of North American Goldsmiths, 2849 St. Ann Drive, Green Bay, Wisconsin 54301.

The purpose of this exhibition is to showcase the diversity and vitality of those who are working in the jewelry discipline. Included in this diversity will be artists working in established modern styles and those whose work is geared towards the marketplace as well as individuals who are experimenting at the edge of the avant-garde.

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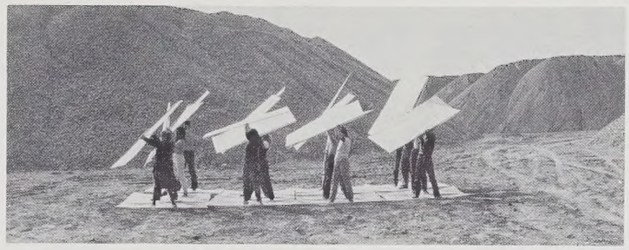


18

Features

John Prip Master Metalsmith
by Tim McCreight 6

Basic Approach to Product Design
by Philip Morton 12

Platinum Design Competition Winners 14

Claus Bury Architectonic Propositions
by C.E. Licka 18

Anodizing Update
by Bill Seeley 26

Pat Flynn Giant Energy in a Little Precious Thing
by Terri Lonier 28

Towards a New Iron Age
by Jane Kessler 31

Photoetching for the Studio Jeweler
by Allan Liu and Carol Webb 34

Seven Korean Metalsmiths
by Komelia Hongja Okim 48

Departments

Letters to the Editor 4

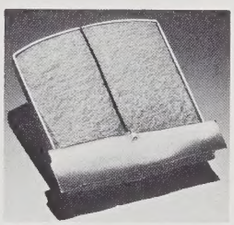
Opinion by Kenneth Bates 52

Issues by Ettagale Lauré 55

Metalsmith Reader Survey Results 56

Archives and the Craftsman
by R. Nicholas Olsberg 50

Health Hazards Questions & Answers
by Linda Weiss-Edwards 51



28

Exhibition Reviews

Thelma Coles: Metalwork
by David Keens 37

Arizona Metal
by Joseph E. Young 38

Richard Reinhardt
by Sharon Church 39

New Departures in British Jewellery
by Whitney Boin 40

The Jewellery Project
by Barbara Young 42

Metal
by Ken Bova 44

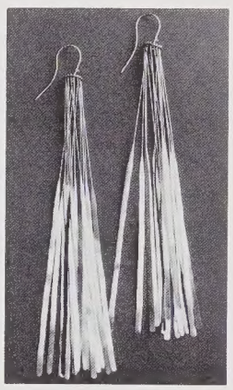
The Medium is Metal
by Anne Barros 45

Leslie Leupp
by David Tisdale 45

Vernon Reed
by Alan Revere 46

Illini Metal
by Karl Moehl 46

Linda MacNeil: New Work
by Fred Woell 47



14

Cover: Claus Bury, *Diagonale 2*, metal object, 3½ x 1¾", 1977. *Bridge Project*, in recognition of the Brooklyn Bridge Centennial, wood with steel, 13 x 15 x 38', May 1983. Photo: Miriam Sharlin. See page 18.

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Letters to the Editor

Many letters received are of interest to the entire readership. Unless stated otherwise, all letters received may be included in "Letters to the Editor." Address letters specifically for this section to: Sarah Bodine, Editor, *Metalsmith,* 1 Penn Lyle Road, Princeton Junction, NJ 08550. Letters should be signed and a return address given. We reserve the right to edit for publication.

Dear Editor:
Having made a Christmas present to myself of the Crafts Council's sumptuously produced *Colouring, Bronzing and Patination of Metals,* I can only marvel at the thoroughness and erudition of the authors, Richard Hughes and Michael Rowe, and hope that it will not be long before they make a similar investigation into the rich potential of surface colourings on ferrous metals (some people are *never* satisfied).

On page 350 the authors mention *rokusho,* the all-purpose Japanese patinating agent, involving Daikon radishes, various chemicals, and "unknown additional ingredients." Perhaps I can cast some light on this:

A couple of years ago, on the road between Canada and California, my son and I decided to look in on Philip Baldwin at the Crafts School at Portland, Oregon. We found him presiding over the final day of a week's workshop on *mokume-gane.* Phil and his class greeted us with almost embarrassing effusiveness and seemed unusually laid-back even for the West Coast.

It was lunchtime, and an appetising, if somewhat gamey, aroma arose from a large pot of soup on the studio gas ring. I was interrupted, on the point of tasting a ladleful, by Phil, who informed me that this was *rokusho*: the floating chunks of veg were Daikon radish (here he flourished a great root of this priapic vegetable); and the savoury stock was provided by the class. Even as he spoke, one of his students emerged unsteadily from the ladies' with a can of amber fluid which she added to the pot.

Not to put a fine point on it, Baldwin's *rokusho* consisted of radishes stewed in urine, heavily tempered with the metabolites of beer and wine; Phil and his whole class had been conscientiously boozing all morning to achieve the correct concentration for the ancient recipe, and were by this stage unable even to pronounce, let alone patinate the stuff.

Baldwin insists that the best wine for the job is Christian Brothers' Pinot Noir, and the beer should be Rainier Ale or Tall Toad, although Dos Equis with chillis is reputed to give interesting results on silver.

The *rokusho* is completed with the addition of a chunk of scrap copper and a large pinch of sodium chloride; immersion in the hot liquid produces various beautiful colours on copper alloys, including a lovely leathery purple-brown.

I have not had time to test the recipe myself, but it would be interesting to see whether a British version, based on Newcastle Brown, Sainsbury's Boxed El Cheapo, and French Breakfast might not produce even more rich and wonderful effects.

Safety Note: all workshop machinery *must* be turned off at the mains *before* trying this recipe. Do *not* attempt to answer the telephone.
—Richard Quinnell
Leatherhead, Surrey, England

This letter was first published in *Crafts* in March/April 1983.

Note: The book *The Coloruing, Bronzing and Patination of Metals* by Richard Hughes and Michael Rowe (reviewed in Spring 83) can be ordered from the Crafts Council, Publications, 12 Waterloo Place, London SW1Y 4AV England for $49.50, which includes postage and handling.

Dear Editor:
Thank you so much for printing my recollections in the Spring 83 issue. For a moment I was in tragic yet blessed company with Margaret Craver and Hans Christensen. Thank you also for the good article on Nathan Winkler. I hope this will be followed by others that will bring more of the experience and knowledge of the metalsmithing industry to the surface.
—Arthur J. Pulos, FIDSA

Dear Editor:
Thanks very much for the amusing review of my book *Jewelry Concepts and Technology* (Spring 83). Winkler is a twinkler, is a gem, is a jewel, is a treasure. As to his complaint that the book is too heavy to read in bed, I have found a solution: Fill a large balloon with pure hydrogen. Using a loop knot, tie one end of a stout string to the balloon, then tie the other end around the center of the book. Considerable *lift* can be achieved, depending on the balloon's capacity. Warning: Do not inhale stray gas nor smoke in bed.

Surprisingly, I have found the size and weight of the book unexpectedly useful. A single copy beautifully flattens damp photo prints, and is just the right thickness to put under a slide projector when lecturing. Two copies (5.72 pounds or 2.6kg each) can be used instead of barbells for weight-lifting and are very functional as supports for heavy horizontal structures, like a marble slab usd as a low coffee table (on which a third copy is placed). Surely these gratuitous benefits add to the value of the book. Don't you agree, Winkler?
—Oppi Untracht

Dear Editor:
The library here has a subscription to *Metalsmith* which is much enjoyed by staff and students. As a librarian I find it of more use than any of the other jewelry or metals periodicals we take and find particularly useful the section which reviews exhibitions. I wonder if it would be possible for you to encourage your reviewers to state whether or not there is an exhibition catalogue available. For instance, I bought a nice little package of booklet and slides from the "Enamels 82" exhibition at the Dimrock Gallery that I'm sure would be of interest to other *Metalsmith* reders but isn't mentioned in the review. I think at the moment some reviewers do mention catalogues and some don't which is frustrating for someone constantly on the look-out for documentation of contemporary work—and I'm sure I'm not the only one.
—Deborah Peake
Assistant Librarian
West Surrey College of Art & Design, Surrey, England

Editorial

While attending conferences, craft fairs and other art events, I am sometimes disappointed by the lack of support for the Society of North American Goldsmiths (SNAG) by the very people it serves: jewelers, metalsmiths and individuals whose entire living is derived from metal. I hear that SNAG should do this or SNAG should do that, with no real understanding of the society and its activities. Or I hear, "Why should I join SNAG as a member for $45, when I can subscribe to the magazine for $20?"

First, the Society of North American Goldsmiths is a group of dedicated individuals (goldsmiths, jewelers, educators, students, authors, gallery owners and more) who believe in the education and promotion of all aspects of art metal. None of the officers, board members, committee chairpeople get paid for their work and in fact have to pay dues and other expenses for the "honor" of working for the organization.

SNAG was formed about 14 years ago by a small group of metalsmiths who were assembling a jewelry/metal exhibition. Since that time, many exhibitions and conferences have been organized; newsletters, technical papers, exhibition catalogs and magazines (*Goldsmiths Journal* and *Metalsmith*) have been published; and other avenues of spreading information have been created (book club, audio/visual library, archives). SNAG is *the* art metal organization in North America, in fact it is the strongest organization of its kind in the world. It derives its power and energy from its membership which reads like a "Who's Who" in metal.

If you believe in your material and your art, support the organization that supports you. The stronger our group, the more we can elevate the entire state and visibility of the metal arts field. Benefits do filter down—free exchange of information; support and advice; encouragement of advances in the field; archival and historic documentation.

SNAG has many other plans which cannot be implemented without your continued support. Next time, do not simply subscribe to the magazine to get information, pay your dues and support the entire organization.
—MB

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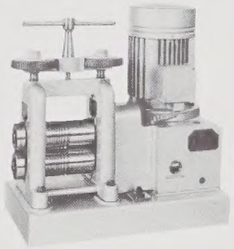

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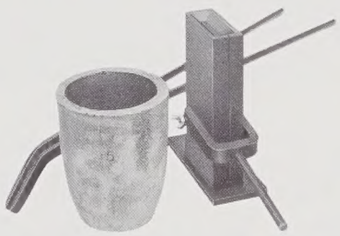

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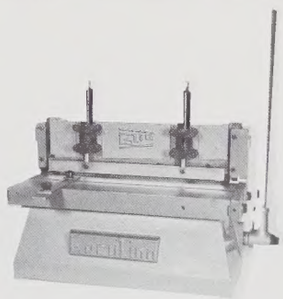

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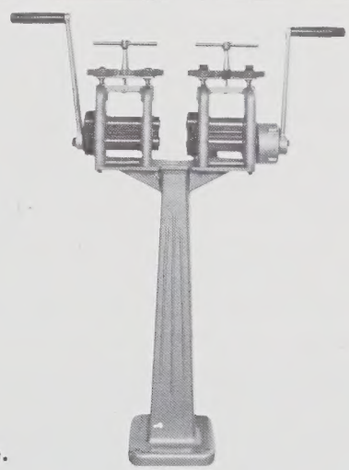

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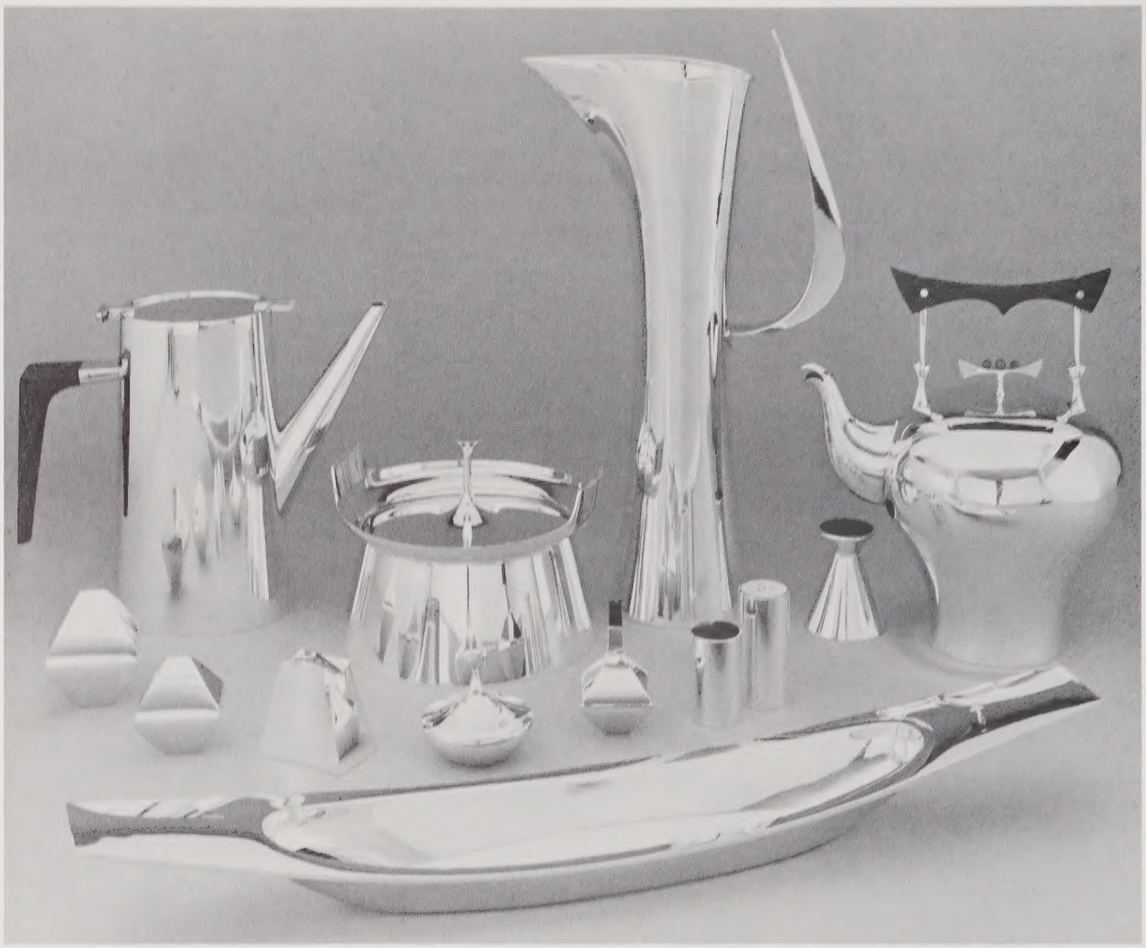
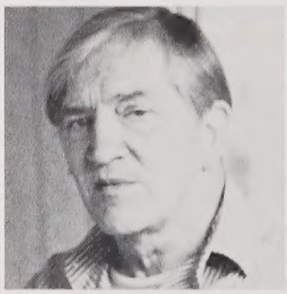


Holloware, sterling, made for Reed and Barton, 1957-59

Coffee Pot, sterling with reed wrapped handle, 1953

Master Metalsmith **John Prip**



by Tim McCreight

Tim McCreight is an instructor at the Worcester Craft Center and a practicing metalsmith.

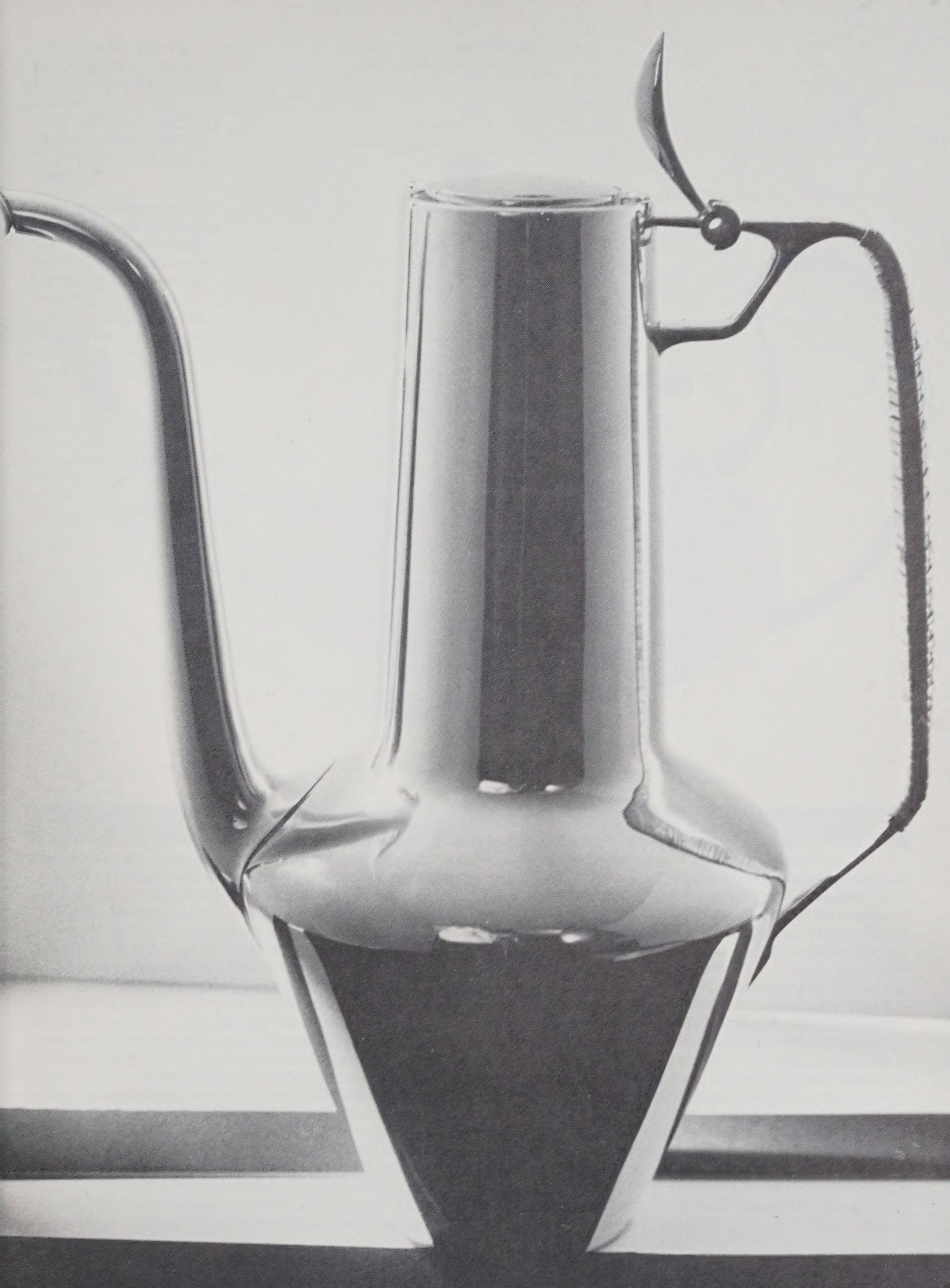
One observation on the career of John Prip (more often called Jack) is the way in which the man and his times have grown together. In some people this might be a coincidence; in others it would indicate an ability to perceive and adapt to a trend. In Prip's case, though, it attests to the role he has played in setting the direction of American metalsmithing over the last 30 years.

When Jack Prip came to a fledgling institution called the School for American Craftsmen in 1948, its metals department was a workspace and an idea. When he left that school in 1954, it had become a department of Rochester Institute of Technology and was on its way to becoming one of the most prominent and respected departments in the country. When Prip went into industry in 1957 he carved out a niche for himself and the generation of designers that followed. When Prip went to the Rhode Island School of Design in 1963, he was given a room in the basement and a handful of students. When he retired from full-time teaching in 1981, he left a department that ranks among the best in the country. It's an impressive record.

As a teacher and an artist, Jack Prip has retained the spontaneous wonder that most of us leave behind in childhood. This quality, linked with inexhaustible drive, technical expertise and a quick compassionate humor, are brought together in the life of this man.

Looking back, the technical foundation was probably the first ingredient of the recipe to show up. Prip was born in New York City to a silversmith father. When he was 10, the family moved back to their native Denmark where his father ran a silversmithing factory. It seems almost storybook, but the truth is that his boyhood toys were hammers and stakes.

At 15, Prip began an apprenticeship while attending high school. The next five years were spent polishing stakes, sweeping up and laboriously reproducing classical renderings. The experience taught diligence and a deeply rooted technical skill, but simultaneously imposed a restricted esthetic. In a way it was the unlearning of these traditional forms and procedures that pushed the young silversmith into bold experiments and motivated the innovations that distinguish his career.



Small Teapot, sterling with ivory finial and reed wrapped handle, 1948

In 1948 Prip left postwar Europe with his wife, Karen, and infant son, Peter. He came over on the same boat with a woodworker named Tage Frid, who was to become a lifelong colleague and friend. They had both been invited to teach at a new school in Alfred, New York, called the School for American Craftsmen. At this time there was virtually no academic training for metalsmiths in the U.S. The School for American Craftsmen was one of the first such schools with a department devoted to metals. This opportunity allowed Prip to transplant his technical background into a fertile, unrestricted culture. The coming together of old and new worlds was an important and challenging time for him. In bringing the formal, technical tradition of Denmark into harmony with the American desire for innovation, the young silversmith was dealing not only with objects, but with basic questions of the relationships between makers, buyers and teachers. It became necessary to question every notion, every aspect of every design. The obsession with peeling away layers of "established" thinking has never ended.

When the school moved to New York, to the Rochester Institute of Technology, two years later, Jack and his family, which now included daughter, Janet, moved along with it. It was during this time in the early 50s that Prip and the craft movement were eagerly searching for their own style. The European tradition had proved to be a fitting point of departure for both the man and the movement, but an impatient energy was looking for new expression.

One of the needs of these early years—an economic as well as an artistic need—was for a marketplace. Along with Frans Wildenhain, Tage Frid, Ronald Pearson and others, Prip established a gallery in Rochester, New York, called Shop One. This gallery was a unique institution in its time, providing not only a business venture originated and managed by craftsmen, but also a forum for the presentation of top quality avant-garde craftwork. What distinguished Shop One from its successors was its sense of purpose. There was, beyond the hope for a viable income, a feeling of mission; a desire to educate the public to the special beauty of handmade objects.

Along with Frans Wildenhain, Tage Frid, Ronald Pearson and others, Prip established a gallery in Rochester, New York, called Shop One.

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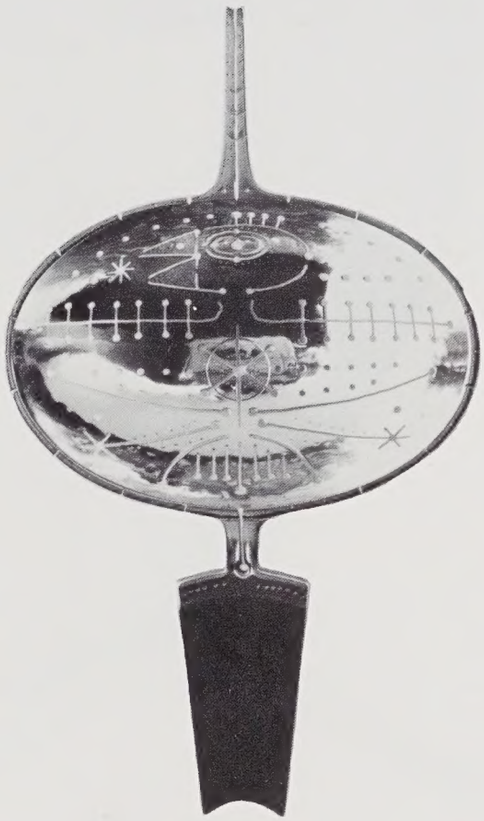


Tea Strainer, sterling, pierced motif, 1950

Looking back on it this move into the marketplace was predictable. A central aspect of Prip's personality is a precocious curiosity, what a former student called a "questioning intelligence." He had come from Denmark directly into the American cubbyhole marked Ivory Tower. After six years of teaching he was uncomfortable with the irony of training students to pursue a livelihood as metalsmiths without having tried it himself. This kind of straightforward logic is typical Prip. Also, he needed to lay his ideas before a larger audience than the classroom provided. It was not of primary importance that the work be appreciated by the public; he had never intended to mold his style so as to cater to popular taste. But through Shop One and, in fact, throughout his life, he has sought a sounding board, a questioning intelligence of his own stature to propel him to new extremes.

In 1957, after three years with Shop One, Prip again felt the need to move on. Through some fortunate connections (and what I imagine was a persuasive charm, though Prip demures), he was hired by Reed and Barton Company, a holloware and flatware manufacturer in Massachusetts. The title invented for the role he conceived was Craftsman-in-Residence. He was given workspace, materials and access to the 900-worker factory. It was understood that Prip had a responsibility to address himself to work that might eventually profit the company, but beyond that guideline no restrictions were imposed.

Prip was to stay at Reed and Barton full-time for three years. During that time he made drawings, models and prototypes. One indication of his success there is the fact that 20 years later several of his designs are still in production. The relationship was one of those that benefited all involved, affirming the symbiotic possibilities between the worlds of craft and industry.

The experience "at the plant" fulfilled some of the needs that had brought him out of academia while simultaneously causing a new restlessness. This seems to be another recurring theme in the career of Jack Prip. By the time he's done scratching one itch, another has come along, somewhere else. Designing for industry provided an opportunity to work on holloware and flatware with-

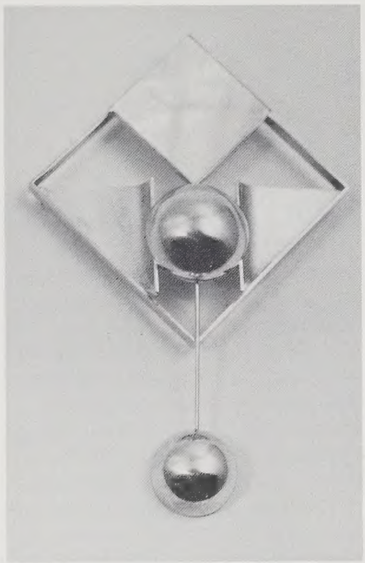
Bird Pitcher, sterling, 1950.
Photo: Toza Radakovich

Flatware, sterling, 1948-49. Later reworked for Reed and Barton in 1958 (Lark pattern)

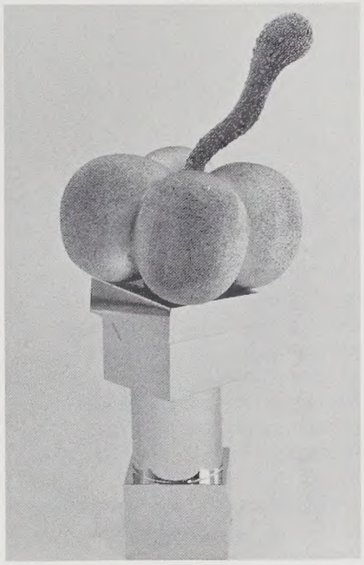
out obligation to patrons or hesitation over the cost of materials. But after three years, Prip was tired of the fussiness of holloware. The slow, studied pace of raising was confining for Jack. Since his association with potter Frans Wildenhain in the early 50s, Prip had envied the spontaneity and nonpreciousness of clay. "We were all excited about abstract expressionism. I was frustrated by my inability to get that kind of restless energy into my work methods." It was time to move in another direction, this time back into teaching, where he found freedom for experimentation and expression. After working at the School of the Museum of Fine Arts in Boston for three years, he went in 1963 to the Rhode Island School of Design, where he was to teach until 1981.

By this phase of his career, Prip had established a technical virtuosity that enabled him to pursue design innovations of impressive breadth and scale. From sculpture to jewelry, raising to electroforming, the "questioning intelligence" was on the prowl. Goading himself as he did his students, Prip committed himself to the job of reseeing the world around him. "I've always been inter-

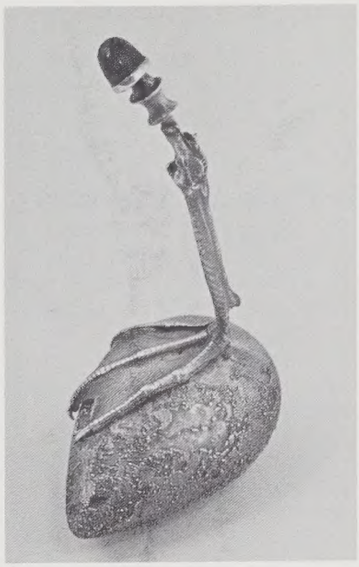
Brooch, silver gold plated with mother of pearl, 1967



Box, sterling, electroformed gold finish and fabricated rhodium finish, 6 x 4⅞, 1971



Gilley's Gull, sterling, 5 x 2⅞, 1971



ested in process; in the result of a process." This investigation into processes, both organic and technical, was to provide source material for many years of work.

In the classroom, Prip was part tyrant and part imp. He asked much of his students but was able to temper his demands with a warmth that endeared him to many of them. In talking with some of his former students I found that most could recollect an incident when they had been angry with him, a time when they thought he had asked too much. But all remembered him fondly, like a favorite uncle who scolds when he must, but soon becomes generous again.

Like most exceptional teachers, Prip is a shrewd observer of human nature. Though he would go for weeks without saying more than hello to a particular student, he was always evaluating. One incident typified his attention: Prip watched a student wrestling with a design dilemma but chose not to get involved until the student had truly exhausted her resources, having pushed herself further than she at first thought she could have. When she was really going down for the third time, Prip, in a few sentences, made a connection between the problem at hand and a new medium. The student saw no relevance but sullenly pursued the suggestion. A couple weeks later the dilemma had evaporated and the ideas were flowing again. Now, 10 years later, the student still marvels over the incident. "I didn't think he even knew I was in the studio, but all the time he was watching out for me, playing out line and helping me along."

"Playing" is an appropriate word for Professor Prip. One of his favorite devices was to sneak back into the studio after everyone had gone home and rearrange the work laid out on people's benches. The students would return to find their containers turned into spouts, their jewelry stacked up like sculpture. It is easy to picture him delighting in his serious task, a kind of helpful elf gone awry. Just like the young silversmith 30 years before in Alfred, New York, Prip was still unlearning, still waging battle with the idea of convention. And as his battle has raged, he's swept many thankful students along with him. ■

Basic Approach To Product Design

by Philip Morton

Design is a perennial issue for all who produce objects meant for a specific use, *utilitarian,* in contrast to objects which have an exclusively *expressive* function. In America the postwar period dating from the 40s was characterized by a concern for functional design in architecture, industry and the crafts. In relation to jewelry, that period might be labeled *contemporary* design. Architecture was designated the International Style. The concern for functional form found its most important expression in the Bauhaus tradition which fully established what we came to know as industrial design.

The Bauhaus program was founded upon two premises: first, that the scientific, rational approach to design must consider the nature of tools, materials and function; and second, that the esthetics of Modern Art were appropriate to express the character of the industrial age. It was realized that design based upon copying old period styles was decadent for industry, architecture and crafts.

Thus, design of the postwar period assumed the characteristics of scientific, rational, functional form combined with the esthetics of abstraction. As with all period styles, the period of contemporary design came to an end. In the face of two world wars and continuing turmoil worldwide, it was perceived that reason had failed. In Europe the Dadaist Movement was an esthetic reaction to the horrors of World War I. And it is interesting that dadaism, with its ironic inversion of values, has been a pervasive current in the art of the 50s, 60s and 70s. But when reason fails, fantasy is the only alternative; all ideas, even rational ones, begin in fantasy.

And so, in the mid-60s there was a gradual turning in the crafts from functional design to fantasy forms. This turning toward fantasy was both an escape from inhibiting limitations and an effort to find forms through fantasy that were more genuine, more expressive of the inner spirit. For craftsmen, a part of the exploration of inner fantasy has been the exploration of both popular and technological forms. And there has been a certain diffidence about utility in design.

Nevertheless, when a craftsman sets out to design a teapot, utilitarian factors must be considered. Most craftsmen know there is a difference between creative design and stylization. Stylization lends itself to fantasy, and vice versa because there are no limitations to fantasy forms other than those of the material and tools. But creative design must also consider factors of function. This is why product design cannot abandon rational principles of design. It is the purpose of this paper to briefly analyze these principles, the seven steps in the process of product design.

Functional Analysis

Product design must first carefully consider how the product meets human need. This may involve a thorough study of human relationships, taking into account broad socio-psychological factors. On the other hand, it may involve the detailed study of a specific environment, such as an operating room of a modern hospital. In either case, the complete circumstances of the need and use of the product must be known, as well as the nature and characteristics of the user. The specific function performed by the product must be analyzed in relation to human need.

Most products can be classified into two main groups: first, those that are an extension of the senses or faculties of the human being; and second, those that are an extension or modification of the environment of the human being. And human need may arise in relation to one or more factors. For example, the need for eyeglasses may reflect the biological limitation of aging or the cultural force of the desire for conformity in the case of adolescents; or it may induce a psychological sense of inferiority, which is why some people prefer contact lenses.

The following check list will indicate the extent and nature of factors which must be considered in product analysis.

Environment of Product
Time of need and use of product
continuous
intermittent
periodic
daily
weekly
monthly
seasonally

Place of use
general
temperate zone
frigid zone
torrid zone
domestic
industrial
office
school
recreational
laboratory

Conditions of use
private
public
interior
exterior
wet
dry
cold
hot
variable

Operational Characteristics of User
normal
unskilled
skilled
age group
male
female
physical size

Basis of need of product
Biological
Social
Psychological
cultural
economic
custom
tradition

Description of Need and Function

Evaluation of Function in Relation to Need

A founding member of the Society of North American Goldsmiths, Philip Morton is presently working as a psychotherapist in Montana and is also a watercolorist. While not actively pursuing jewelry, he maintains an interest in the study of craft and design.

Product Research
Before we can contribute to any field of knowledge, it is obvious that we must be thoroughly acquainted with that field. This ought to be clear, yet many designers do not hesitate to offer a new solution to the design of a product without investigating the history of the characteristics of that product.

It is crucial that we examine the origins and forms of the product that we contemplate designing. This immediately demands research, both historical and contemporary. We must look into all the historical solutions that have responded to a given need, and we must carefully study solutions on the market today.

A check list of important facts would run something like the following:

Summary of history of product with description of each significant solution, dealing with the following factors:

Function, *note functional variations of changes*

Materials, *quality, visual, tactile, and color, etc.*

Technology, *what scientific principles utilized*

Size-weight characteristics

Functional efficiency

Nonfunctional variations, *style and forms*

Functional improvements or advances

Market Survey
There was a time when a man with a new or improved product went right into production. Bankruptcy, however, taught the intrepid entrepreneur that there was insufficient demand for his product. In these enlightened days few products are placed on the market in advance of a market survey. Such a survey studies the time and place of use of the product, the conditions of use and the characteristics of the user. The demand for the product must be classified by size—both existing and potential—location, economic class and age group, and the characteristics of the consumer must be studied, including his attitudes and preferences. Existing products must be analyzed and sales volumes ascertained in relation to both demand and price. The limitations and weaknesses as well as the satisfactory qualities of the product must be studied. This survey should also consider untapped markets, new uses or adaptations to which the product might be directed.

Evaluation of Form in Relation to Function
Only now have you reached the point of determining form. This form will be dictated by the functional characteristics of the product in relation to the need. It will also be dictated by available materials and technological processes. Ultimately, it will be dictated by your own knowledge and understanding of all the factors involved. This may require special research. For example, if you are to design an improved photographic enlarger, you must have an adequate knowledge of the physics of light and the processes of photography. You will note the phrase "improved" photographic enlarger. It stands to reason the only basis for developing a new design for an existing product is an "improved" design. Unless your design makes the product better in some way, there is no justification for its existence. Here, product research and market survey provide the criteria. Satisfaction or dissatisfaction with existing products serves as the basis for departure. Can the product be lighter, more flexible, more durable, more convenient to use? Can it be made better and more economically in another material or by other manufacturing processes? These are the questions which precede the process of sketching out new ideas.

Experimental Forms
By now you have crystallized a number of specific ideas about your "case product." These ideas must be illustrated by sketches and descriptive material indicating the particular problems which you address. It goes without saying that it requires consistent thought and study to devise creative solutions to the problems which your researches and studies have outlined. This is the test of the product designer, for experts and technicians may be hired to solve marketing, statistical, research and technical problems. It is the job of the product designer, whether he works for industry or for himself, to synthesize all these factors in a functional, tactile and visual form.

Evaluation of Function in Relation to Market
Whereas an earlier step in product design occasioned an analysis of the function of the product in relation to human need, it now becomes necessary to analyze the market—factors such as volume, price, quality, consumer preference and sectional (or national) differences.

This is the point at which advanced design must confront social inertia, cultural lag, resistance to new and unfamiliar forms. This is the point at which the product designer must be able to sell himself and his ideas to his client, his boss, and the public without sacrificing integrity. Although today we see many advanced designs in a wide range of products, the majority of products on the market still reflect 19th-century design. The classic argument rests upon the question as to who is responsible—the manufacturer, the sales manager or the public. The product designer's job cannot be said to end with design. He must reconcile that design with the market conditions in such a way that he wins rather than loses the battle for advancing the level of good design. To do so, the designer may have to solve the problem of selling his design to the public.

Final Solutions
It is common knowledge that life is full of compromises. This is as true of design. Generalization is gained at the sacrifice of specialization and vice versa. Any given product may compromise functional necessity and esthetics. It may sacrifice efficiency to convenience, or universality to speciality. There are no perfect solutions, nor is there a single solution to a problem. There are multitudes of solutions to each type of design problem. The product designer reveals his genius to the extent that he can choose, select and compromise the factors involved. For example, any product designed for general use is usually foolproof. That is, its operation is simplified to a maximum as is its maintenance, variability and range. The commercial radio or television set is an example. The final solution can only be made after considering all the factors we have reviewed: market demand, consumer, price and cost. Usually the designer will reach this stage in the product development with several equally good solutions. All other conditions being equal, the factors of cost, ease of manufacture will be the deciding factors.

Conclusion
All that we have reviewed would seem to address the designer working for industry. And it may seem to many craftsmen to be needlessly complex and exhaustive in its perspective. Yet craftsmen also are confronted with the many factors which we have covered. The working craftsman who makes a living through production is perhaps more deeply concerned with the principles of product design than the individual craftsman who is producing individual pieces for his own audience. Yet it cannot be a disadvantage to be aware of the process of developing craft products, even if stylization is a primary focus of the individual craftsman. Therefore this discussion is offered to all those who may benefit, directly or indirectly, from an exploration of product design. ■

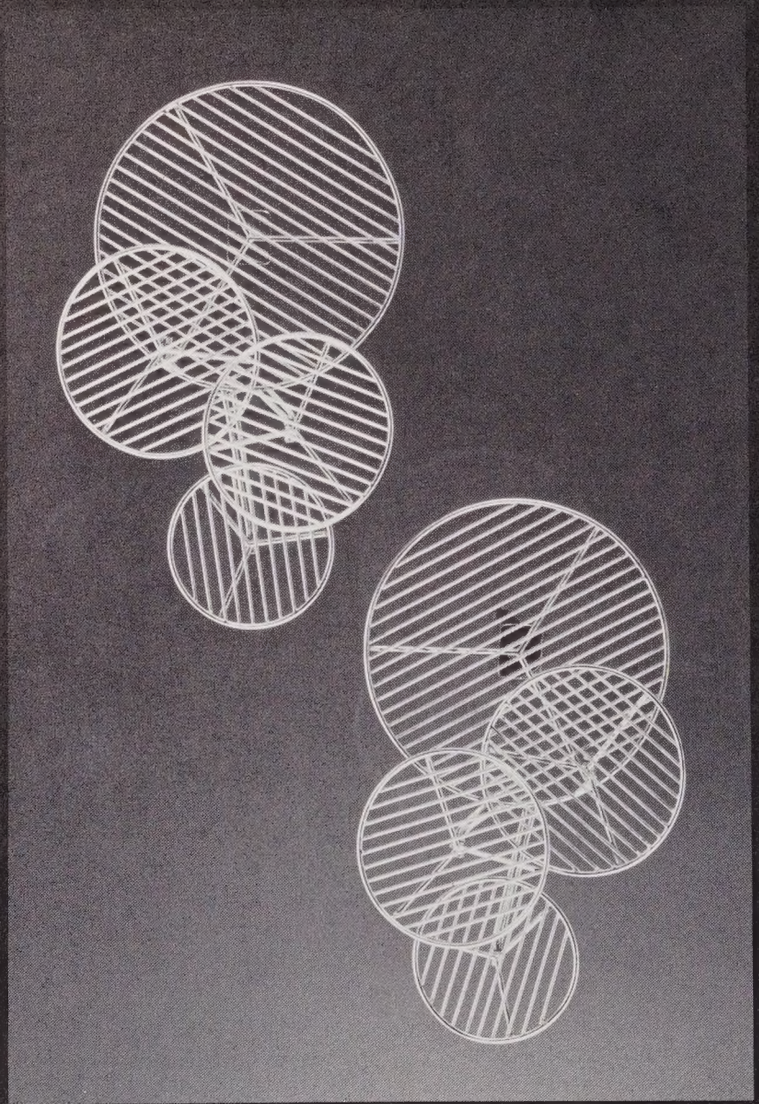
Platinum Design Competition Winners

This year Johnson Matthey Inc., the world's largest manufacturer of platinum group metals, in cooperation with the Society of North American Goldsmiths inaugurated the annual "SNAG Platinum Jewelry Design Competition." Open to members of the society, the competition professed the objectives of: encouraging the use of platinum in new and different ways; expanding the jewelry possibilities of this precious metal; and providing an opportunity for metalsmiths to execute their creative ideas directly in platinum.

Entrants to the competition were asked to submit one design in the form of a sketch or drawing. These were juried and designs by the 10 finalists were executed by the metalsmiths themselves with up to 10 dwt. of platinum provided by Johnson Matthey. The 10 finished pieces were then resubmitted for a final jurying to determine the prize winners. The Grand Prize of $1000 was awarded to Whitney Boin, New York City, for his flexible, layered, circular spoke earrings; two prizes of $500 each went to Lynda

First Runner-Up **Lynda Watson-Abbott** *Brooch*, lightly sandblasted with colored oriental design

All photos by Amy Ardrey



Grand Prize **Whitney Boin** *Radar Earrings*, circles are hinged and move freely from side to side,
Photo: Jerry Valenti

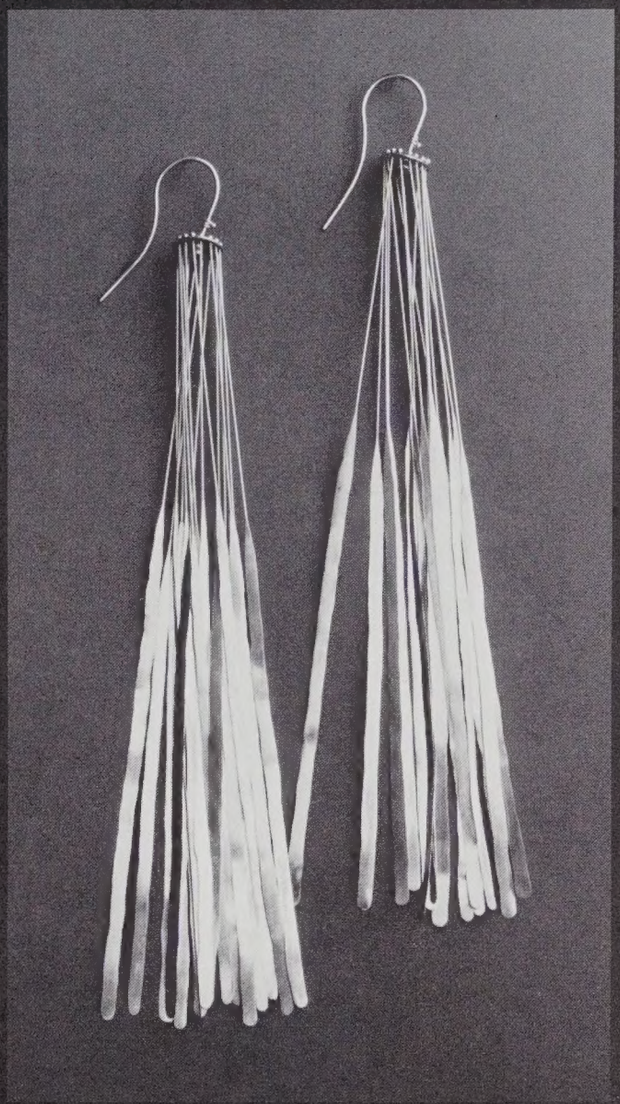
Watson-Abbott, Santa Cruz, CA, for her platinum brooch, lightly sandblasted with colored oriental design and Phillip Fike, Birmingham, MI, for his forged drop earrings, noted especially for their flexibility and lightness. The other finalists were: Helen Claire Cerwin, Rochester, NY; Michael Good, Camden, ME; Jane Groover, La Mesa, CA; Randall Gunther, Magdalena, NM; Terri Matheson, Tucson, AZ; Eric Russell, Philadelphia, PA; Susan Wood-Onstad, Mendocino, CA.

Following are statements by the judges of the competition:

The diversity of ideas represented in the works of the 1983 "SNAG Platinum Jewelry Design Competition" was a most agreeable surprise. A wealth of technical expertise and visual exuberance was displayed in the designs and with particular grace in works that explored and exploited the special qualities of the metal. The machine-edged precision of Terri Matheson's asymmetrical ear ornaments and Jane Groover's evocative tool-like pendant earrings, and the seductive textures revealed in works by Randall Gunther and Eric Russell give some idea of the approaches and attitudes toward platinum that characterize this year's competition.

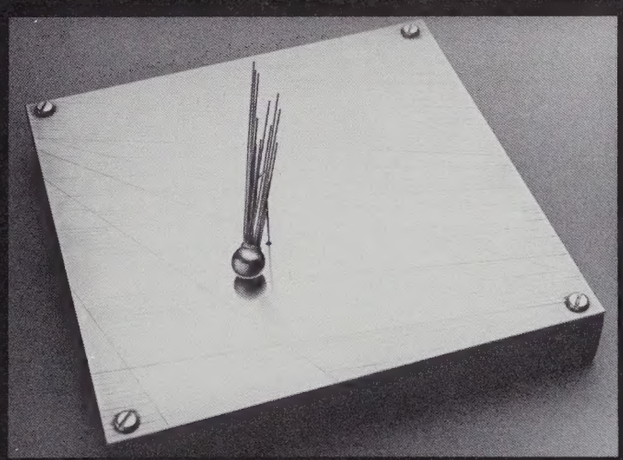
Those designs selected as the three award winners revealed the virtually unlimited potential of the material when masterfully handled by designers whose abilities achieved an admirable balance between esthetic goals and traditional craftsmanship. The icicle carousel earrings by Phillip Fike reiterate both the strength and lightness of platinum, while Lynda Watson-Abbot's sandblasted and subtly colored calligraphic landscape brooch examines the textural qualities of the metal. Whitney Boin's articulated spoke earrings underscore the relationship between body ornament and body movement, capturing light in a series of interlocking planes while offering glimpses through the design; structure and visual qualities are reunited in this design with particular elegance and economy of materials. If the award winners in this year's competition may be taken as a barometer of the contemporary jewelry designer's awareness of platinum as a vehicle for new ideas, it may be hoped that subsequent efforts will be both inspired and challenged by the designs selected as the prize winners for 1983.

David Revere McFadden,
Curator, Decorative Arts
Cooper-Hewitt Museum,
New York City



First Runner-Up **Phillip Fike**
Forged Drop Earrings

Finalist **Helen Claire Cerwin**
Pin with Spikes: doubles as a sculpture on etched metal stand



The "SNAG Platinum Competition" collection distinguishes itself, in my eyes, as a group of wearable jewels appropriate for a casual lifestyle. Formal or trendy jewelry which can find a comfortable place in trade competitions was not represented in the final selections, nor in the original submissions. In this exhibition the society has made an important statement, though in a small voice, to the consumer that platinum can be something other than a vehicle for precious stones and it can become a part of everyday attire.

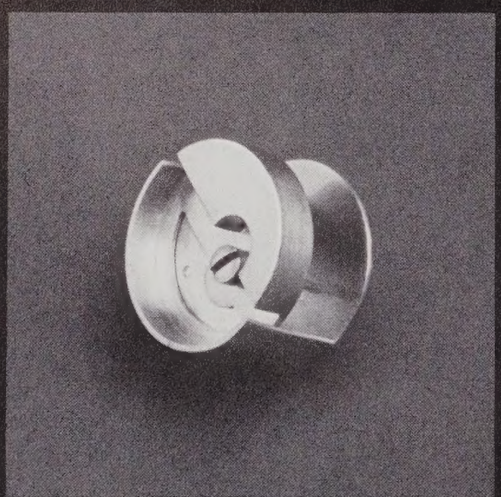
The exploration of the unique qualities of platinum was the principal eye-tickler for me. The selection of form, size, finish and other construction details appropriate to the theme was important. To a lesser extent wearability or the need to represent a variety of viewpoints overall was important. Salability was of no consequence. The drawings were reasonably skillful; although the mechanics of the piece remained a mystery.

Many of the submissions satisfied my criteria very well. The Grand Prize winner went beyond this. The earrings are large yet not heavy; bold forms yet delicate in detail; solid in some lights, transparent close-up; circles yet linear. Since each element is hinged, they move in multiple directions in response to the body. These contrasting and changing aspects make the earrings fascinate, provoking thoughts and feelings beyond the appreciation of platinum yet dependent upon the medium.

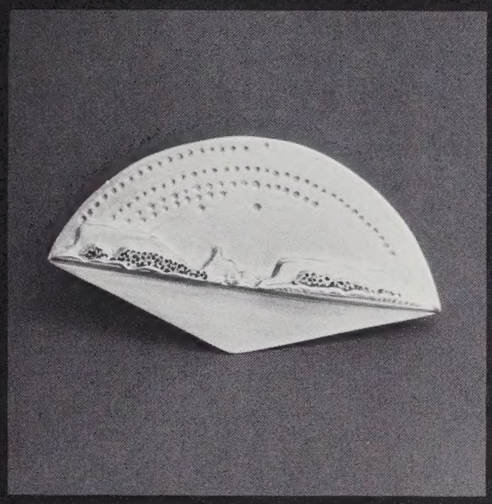
Glenda Arentzen
Jeweler, lecturer, FIT,
New York City

Finalist **Susan Wood-Onstad** *Drop Earrings*, with gentle curves and basketweave center

Finalist **Michael Good** *Drop Earrings*, with gentle curves



Finalist **Terri Matheson** *Industrial Design Stud Earring*, with 14k yellow gold bolt for right ear; 14k yellow gold stud for left ear



Finalist **Randall Gunther** *Mesa with Electron Rings Brooch*

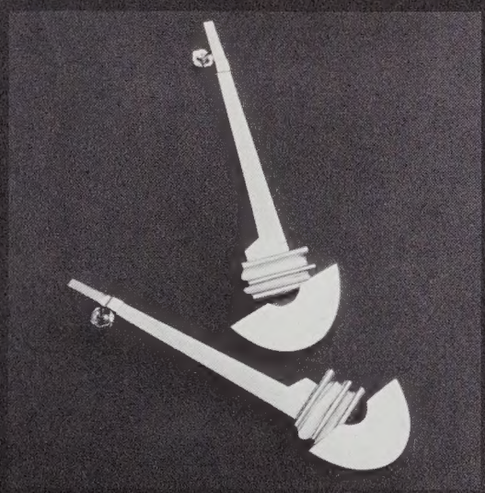
In assessing the entries for this competition, I placed value on both jewelry as ornamentation and invention regarding form and image.

Using the three prize winners as examples of jewelry as ornamentation, I found that in each case careful attention was paid to particular placement on the body. With Whitney Boin and Phillip Fike choosing an earring and Lynda Watson-Abbott choosing a pin format, each designer exploited the decorative potential of the medium while maintaining wearability.

The prize winners are quite diverse in their particular views toward form and image. Whitney Boin clearly designates his platinum earrings to be computer-age ornaments. Their form and subtle articulated movement refer specifically to today. Phillip Fike's work is not as specific, more timeless. His earrings contain references to ancient forms while reflecting contemporary concerns of decorative beauty. Lynda Watson-Abbot's pin is perhaps the most personal of the three in that it combines unique graphic and three-dimensional concerns. Her painterly use of multicolored dyes, satin and matt surfaces indicates an Eastern sensibility while the form of the piece is clearly Western.

As an overall observation of the entries, I found that generally there was a concern for wearable, design-oriented jewelry. This may be a direct result of the 10-pennyweight limitation or the material itself. However, I think that the current socio-political climate of the country is a far more powerful influence. While I found most of the work to be visually pleasing, a few pieces were also expansive and challenging.

Gary Griffin
Metalsmith, Professor of Art, School for American Craftsmen, RIT, Rochester, NY

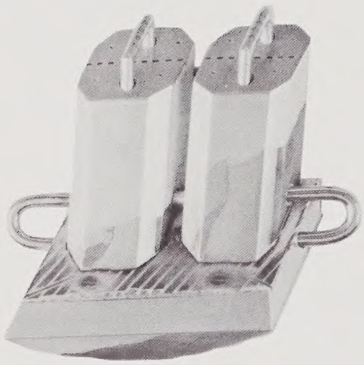


Finalist **Jane Groover** *Drop Earrings*, with 14k yellow gold, sandblasted and pleated with gold accents

Finalist **Eric Russell** *Global Earrings*, with line engraving

Claus Bury
Architectonic Propositions

by C.E. Licka

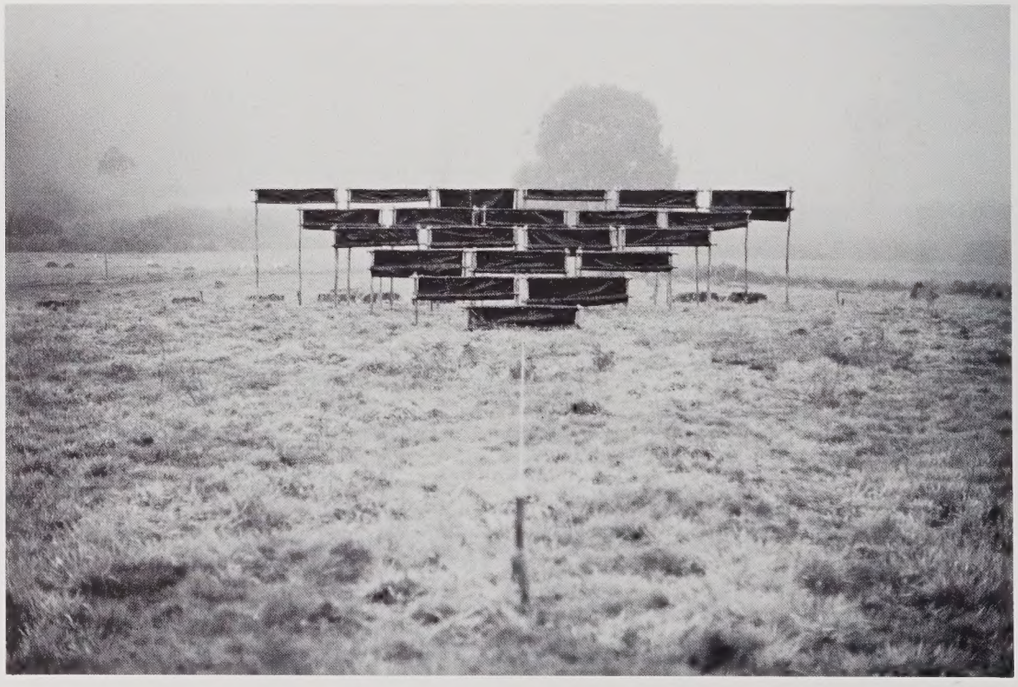


Claus Bury's rejection of his immediate past, a long-standing European tradition in goldsmithing, and his defection to the fine arts by the end of the 70s, points out a major weakness in the crafts: its inability to accommodate radical ideas and shifts of sensibility within its own framework. Historically, since the mid-19th century, the fine arts community has been associated with the notion of the avant-garde—an antagonistic force dedicated to upsetting ossified academic conventions, pursuing messianic visions of the world and rejecting the normative values of the public. Whether or not the avant-garde is dead or alive today is a moot point, but when we turn to the crafts, the avant-garde as an internal agent of change and criticism has been conspicuously missing. There are no Salons des Réfusés, aggressive manifestos demanding the past be exorcised from the present nor banners protesting the old order. Lacking such a revolutionary mechanism seems to impede the full participation of the crafts in modern art's polemical tradition. For those artisans whose ideas have outstripped the limitations of their craft heritage, there is no alternative but to cease making art or seek asylum elsewhere.

For Bury and other craft-trained artists (e.g., Peter Voulkos, David Smith, Julio Gonzalez, Gary Griffin), the crafts can be viewed as a stage in their development, a springboard for pursuing other artistic activities. There is no better example of this phenomenon in the history of metals than the relationship of goldsmithing to the fine arts during the Renaissance. One only has to think of Cellini and his progress from an artisan to a successful "fine artist." As a matter of fact, when one reads Vasari's *Lives of the Painters, Sculptors and Arthitects,* an impressive list of artists can be cited who began their professional careers as apprentices under a master goldsmith: Ghiberti, Brunelleschi, Verrocchio and Botticelli.

Bury, of course, did not begin his career as an apprentice under a master goldsmith, but he was thoroughly trained within the European goldsmithing tradition. After his graduation in 1968 from the Kunst und Werkschule, Pforzheim, West Germany, he traveled throughout the world teaching, exhibiting and lecturing. During the early 70s he began to question his traditional jewelry heritage as well as the conceptual and material direction he wanted to pursue.

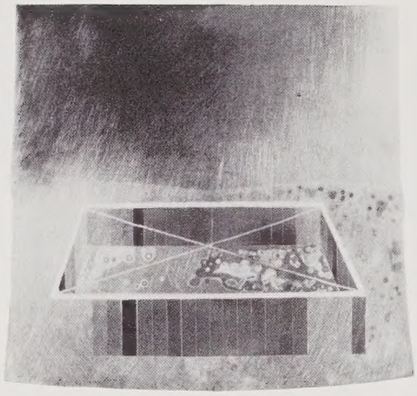
From a conceptual point of view, he partially eliminated the passive role the consumer played in using and wearing jewelry. By setting up a dialogue with the consumer by means of explanatory drawings, or scenarios for activating the jewelry, he gives the buyer of one of his pieces of jewelry a variety of options with which to create his own combinations. A brooch or a ring, for instance, can be worn in multiple ways, or simply become an *objet d'art* along with the drawing.

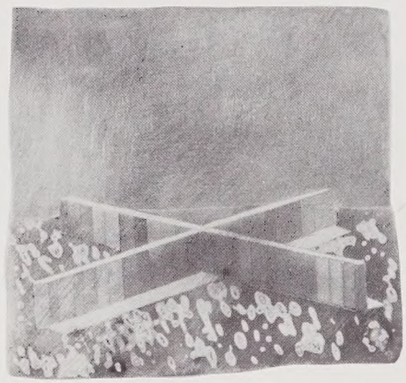


Above *Container Series,* brooch, gold 750, Silver 1000, copper alloys, 1974. **Right and opposite** *Black Sculpture,* 1979. Photos: Ingrid Kellenbach

C.E. Licka teaches art history at Temple University, Philadelphia, Pennsylvania

What distinguishes our modernity from that of other ages is not our cult of the new and surprising, important though it is, but the fact that it is a rejection of the immediate past, an interruption of continuity . . .
Octavio Paz, *Children of the Mire*[1]





There is obviously an element of chance intrinsic to these works, but it is a form of "controlled or designed chance." Behind this gamelike guise are manipulative and rational concepts of Bury the designer at work. Controlled chance in this case is at the opposite end of the spectrum of Duchamp's "canned chance," or Jean Arp's spontaneous gestures.

These early drawings for his "participatory" jewelry are analogous to meticulously rendered blueprints. They illustrate the first stages of his kinship with architectonic relationships and the processes by which one can construct structures. Eventually, large-scale orthographic projections are used with provisional sketches to facilitate an understanding of his ideas. These drawings represent one facet of the image of Bury, the artist-engineer, who has continuously emphasized process, whether it was an early brooch with exposed screws, the *Concave-Convex Construction* (1981) with its meticulous diagrammatic references, or his recent *Bridge Project* with its body-space manipulations.

Bury experimented with a variety of different substances in his jewelry. During the early 70s he contrasted synthetics, such as colored acrylics and laminated sheets of plexiglass, with gold and silver, creating marvelous miniature geometric and perspectively rendered illusionistic worlds. But these were imaginative landscapes, abstract glyptic tracings of his psyche. Later on, during his stay in Jerusalem from 1975–76, he initiated explorations in "real" space and its implications for site-specific works. But up to 1976 he was still incorporating and experimenting with the use of metallic alloys in his jewelry. He felt, however, that the random effects of the color combinations achieved through a trial-and-error process should be systematized in some way. This led to metallurgical experiments at the Degussa Factory in Hanau, West Germany in 1976. These color studies in metals are comparable in their rigor to Klee's *magic square* pictures of the 20s that focused on a variety of color relationships (e.g., *Architecture of Planes* and *Intensification of Color from the Static to the Dynamic* both from 1923). Like Klee, Bury was, and still is, concerned with the underlying structure of nature, its proportions and mathematical systems. The Degussa experiments, in light of their analytical nature, were akin to a personal pedagogical primer for Bury. It was from these experiments that he obtained a more stable range of colored metal alloys to investigate surface effects and reflective properties. This research, combined with his new interest in site-specific notions, proved to be the catalyst for his last series of jewelry between 1976-78.

Bury's innovations as a metalsmith had earned him an international reputation by 1975. Success appeared to be a *fait accompli.* But this was also a year of critical transition for him. He began to take risks outside of the

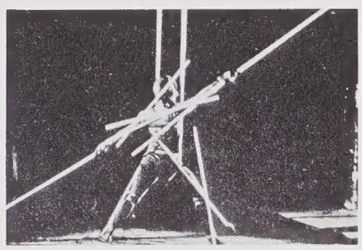
Top *Rectangle,* brooch, gold 760 H, silver 935, copper alloys, 6 x 6 cm, 1977. Collection Mr. and Mrs. Wilhelm Kraemar. **Above** *Diagonal 1,* brooch, gold 750, silver 935, copper alloys, 6 x 6 cm, 1977. Collection: Schmurckmuseum Pforzheim, West Germany

Right *Geometrical Formations 1,* Judean Desert, Israel, 1975. **Center** *Geometrical Formations 3,* 45 participants, white cotton, Sinai Desert, 1978. Photo: Miriam Sharlin. **Far right** *Geometrical Formations 5,* Offenbach, West Germany, 1981. Photo: Claus Bury

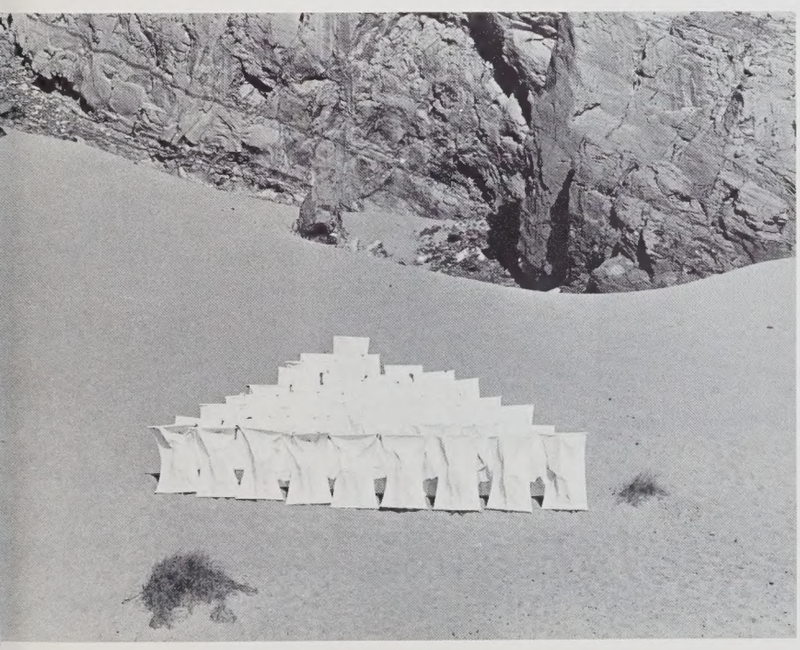
metalsmithing framework. As a guest teacher at the Bezalel Academy of Arts and Design in Jerusalem between 1975–76, he investigated the complexities of site-specific works in the Judaen Desert. Instead of continuing to construct the illusionistic geometric forms of his brooches, he surveyed real space by siting procedures and choreographed the movements of his students on the desert terrain in works such as his *Geometric Formations, Part I* (1975). This territorial assertiveness was a logical outcome of his dissatisfaction with metaphorical space in jewelry, and points to a topographical consciousness reminiscent of Le Corbusier's remark about the origins of man's spatial consciousness: "To take possession of space is the first gesture of the living, men and beasts, plants and clouds, the fundamental manifestation of equilibrium and permanence. The first proof of existence is to occupy space."[2]

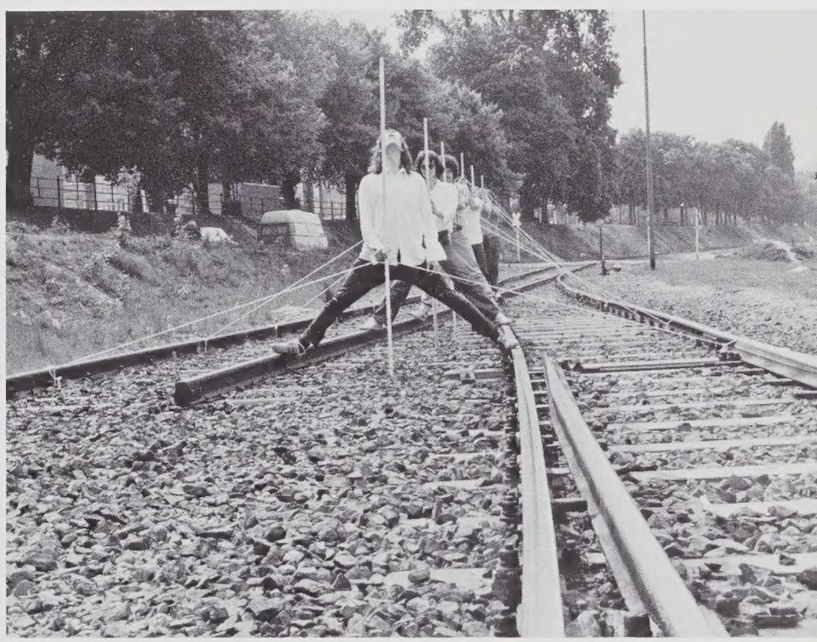
These initial experiments in the desert not only set the stage for Bury's later architectonic works, but also indicated his affinity with earlier 20th-century developments such as Russian Constructivism and the Bauhaus. His use of plexiglass and polyethylene, the use of elemental means of expression and a belief in the fusion of art and life are expressive of the constructivist tradition, but it is critical to keep in mind that Bury's work doesn't reflect the collective outlook of that generation's "artist-engineers." Gabo's "constructive realism" of the 20s, which argued for the independent status of art and artist, is closer in temperament to Bury, as is Gabo's belief that one should create constructed images "that are a factual force" making "their impact on our senses . . . real as the impact of light or of an electrical shock. . . ."[3]

Factual forces or experiential structures are manifested in both his movable and interior/exterior static works. Resonating throughout these pieces is the desire to reinstate and accentuate the spectator's sensory experiences and relationships to manmade and natural surroundings. Movable sculptures, like his ongoing *Geometrical Formation Series Parts 1-6* (1975–82), are reminiscent of Oscar Schlemmer's Bauhaus stage productions—*Dance of Slats* or *Dance in Space* (1928–29). The use of elemental formal relationships, and the idea of manipulating space with a variety of simple props as if it was a viscous transparent medium, is shared by both artists. For example, in Bury's *Geometrical Formations Part 5* (Offenbach, Germany, 1981), six students are lined up behind one another with their legs spread out on diverging train tracks, creating an inverted Y-shaped configuration. Each student holds a vertical stick directly centered in front of him and approximately two feet higher than his head. A string is wrapped around each stick and then tied to the rails of additional outer tracks. A formal equivalent between the inverted Y-shape of the torso/spread legs and the vertical stick/string is created at one level of perception. The height at which the string is attached to each stick also var-



Oscar Schlemmer, *Dance of Slats*, 1927. Photo: Bauhaus Archives, Berlin





Concave-Convex Construction, installation at List Art Center, Brown University, Providence, RI, January-April 1981, wood, 15′2″ x 17′6″ x 38′5″. Photo: Jonathan Sharlin

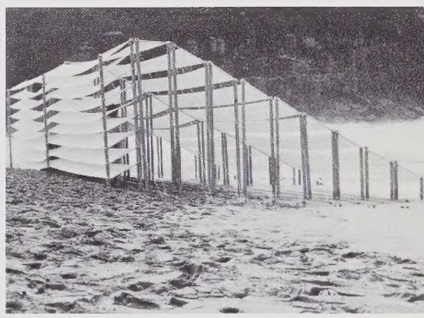
ies. The string extends from each side of the stick like a web line and is secured to the sides of the outer track. By progressively raising its height on each receding stick in a serial manner, Bury has created an arithmetical sequence that suggests an underlying structural system. Geometry, tension, perception and the body as a structural coordinate are integrated into spatial experience in which each participant senses his own physical relationship to that space.

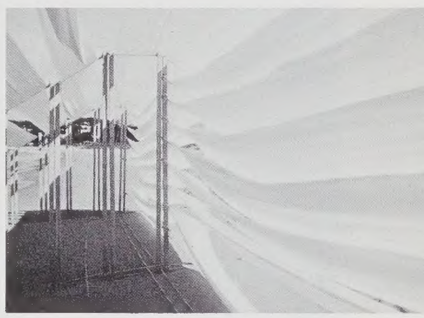
Other less apparent influences on Bury's movable sculpture can be traced to the performance-oriented works of Klaus Rinke's "actions" and "demonstrations" (e.g., *Interpersonal Relationships* and *Primary Demonstrations Along the Wall* and Franz Erhard Walther's *Handlungen* (activities like his *Exercise First Set No. 58* and *Primary Relation Form-Rest Form*). These works all referred to a variety of phenomenological inquiries using minimal gestures, presentations, sequential systems and simple activities which allowed the artist to manipulate people, objects or himself. The purpose behind these "activities" was to experiment with and create new relationships and experiential possibilities within a specific setting.

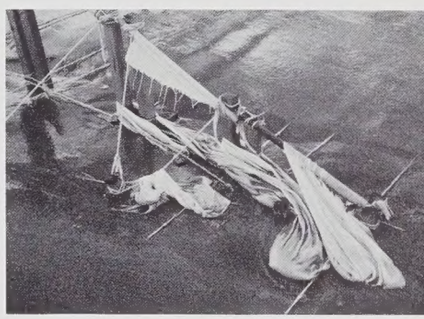
This experiential feature is a constant in Bury's art. His *Black Sculpture* (1979), *Wind Sculpture* and *Extension Installation* (1980), *Raumvershiebung* (Spatial Displacement, 1981), and his most recent static structures, *Two Elevated Walkways* (1982) and the *Bridge Project* (1983), set up in Madison Square Park, must be seen against the backdrop of previous earthworks, systemically associated sculpture and minimal developments of the 60s. Closer in intent however, are Post-Modern artists like Robert Irwin, Bruce Naumann, Michael Asher, Massimo Scolari and Alice Aycock who fabricate architectural environments that emphasize the physical and psychological dimensions of experience. Their ideas, like Bury's, indicate a predisposition towards architectural notions concerning time-space relationships and the ordering of that space. However, it is not only the visual aspect that interests Bury and these artists, but the intensification of our senses by other means, such as touch, sound or movement. As a result, human interaction and scale are crucial to these works. Seen in this light, Bury's experiential chambers are like sieves, what Merleau-Ponty has called a "porous" reality.[4] It is this porosity that manifests itself as one moves in and around his spatial worlds.

All of Bury's site-specific undertakings have been temporary structures, and an installation like his *Wave Sculpture* (1979) expressed the dialectical and process-oriented nature of his thoughts. In this case, he opposed a passive manmade structure against the active ebb and flow of the waves. The sculpture, placed on the beach, consisted of wood, twine and translucent cotton sheets that rippled like sails in the light. Seen from the side, it suggests an ascending series of abstract louvered wave sections cascading down the backside. As the waves gradually pummeled it the structure fell apart. This process of disintegration by natural forces has a quality of the sublime and registers a sensitive metaphor for the flotsam of experience and the temporal nature of manmade structures. Even though there are entropic overtones in operation, they are not of the magnitude of Smithson's large-scale displacements. Instead, the event is on a human scale directly experiential. One is in the present witnessing and experiencing the clash of two different creative forces, rather than Robert Smithson's geological sense of time and the erosive processes of nature, which are gradual and beyond the present.

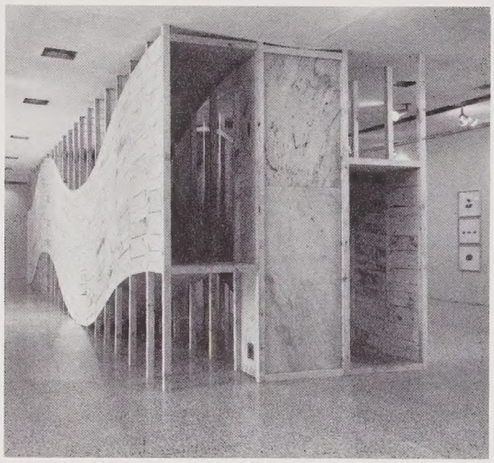
His most recent ventures, *Two Elevated Walkways* and the *Bridge Project,* expand upon his architectural and experiential premises. *Walkways* was an interior installation consisting of two parallel, alternating, tunnellike chambers, gracefully undulating like two overlapping sine curves on a graph. By ingeniously revising the previous architectural setting to accommodate the space as he envisioned it, Bury set up a wide range of experiences for the spectator. One has three options for entering the two enclosures, and once inside, there are a variety of views between the walkways as well as out into the gallery. Light and shadows move through the space of the interior as if it were a static space-light modulator. One isn't pressed through this space as in the later *Bridge Project,* but there is a tendency to coordinate one's movement through the space to the rise and fall of the wavelike corridors. From the outside the structural arrangement reads as if it were an infinite mathematical progression that could continue beyond the confines of the gallery.







Top to bottom *Wave Sculpture Construction and Destruction within 18 hours,* installation at Palm Beach, Sydney, Australia, May 1979, pine, white cotton, twine, 8'2" x 24'6" x 39'3"



The *Bridge Project,* constructed during the Brooklyn Bridge Centennial at Madison Square Park, is Bury's latest, and one of his most interesting works. This is the first site-specific project to be fabricated within a large American metropolitan area. Approaching it from a distance, one immediately responds to the iconic presence of this structure set within the bowered atmosphere of the park. Two 12-foot high wooden pyramidal shapes face one another with a centralized tiered section flowing down the base of each section. This inclined triangular shape is a recurrent form that has intrigued Bury since his first sitings in Israel, and in this piece, variations on triangular shapes play an important role. The triangular sheet metal element that spans the two pyramids not only reflects the Brooklyn Bridge in a symbolic manner, but the references to the surrounding architectural structures—the Flatiron Building with its narrow wedge-shaped iron facade and the Mutual Life Insurance Building with its ascending terraced stories capped with a pyramidal shape—conjure up other formal connections and building processes.

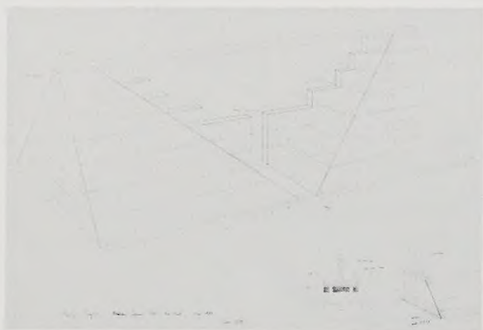
The analogy to modular construction techniques and the serial window facades of the buildings that skirt the periphery of the park reinforces the systemic arrangement of this piece. However, the underlying mathematical system might not be apparent at first glance. He bases the proportions on Fibonacci's numerical system and his own body proportions, resulting in a vertical height twice that of a six-foot man. The use of mathematical systems only reflects the rational or apollonian elements in this work. Bury thinks dialectically, and it would be misleading to emphasize the analytical aspects of his work at the expense of its dionysian counterpart—the emotional and irrational responses of the artist to his world.

By manipulating the individual's relationship to space the *Bridge Project* reflects a variety of psychological and physical responses. For example, the lowest tier, constituting the inside wall, frames the passageway so that only one person at a time can pass through. One gets the feeling of being squeezed between two massive forms and then released into an expanse of space. By intensifying a general sensation one has about New York—the sense of compression created by the solid masses of buildings—Bury momentarily internalizes the idea of tension both physically and mentally. Since movement is constricted by the width of the passageway, one operates like an element within the structure, a kind of human bridge or structural component that links the two forms at the base. The body becomes the "fabric into which all objects are woven . . . that strange object which uses its own parts as a general system of symbols for the world."[5]

The *Bridge Project,* like a great many of Bury's other site-specific works, appears to be an attempt to humanize and reactivate urban spaces. It also represents the culmination and continuation of his previous biostructural (body-space-architecture) investigations and is indicative of his desire to make his architectonic propositions not only a reality but an organic part of our consciousness and perception. ■

Above *Two Elevated Walkways,* installation at Moore College of Art, Philadelphia, PA, wood, 1982. Photo: Jonathan Sharlin
Opposite *Bridge Project,* installation at Madison Square Park, New York City, May 1983, wooden construction with steel connector, 13′ x 15′ x 38″. Photo: Miriam Sharlin

Notes
1. Octavio Paz, *Children of the Mire, Modern Poetry from Romanticism to the Avant-Garde,* trans. Rachel Phillips, Cambridge, MA: Harvard U. Press, 1975, p. 3
2. Le Corbusier, *The Modular,* Cambridge, MA: MIT, 1954, p. 30
3. Naum Gabo, "On Constructive Realism," 1948, from *The Tradition of Constructivism,* ed. Stephen Bann, NY: Viking, 1974, p. 234
4. John F. Bannan, *The Philosophy of Merleau-Ponty* NY: Harcourt Brace, 1967, p. 107
5. *Ibid.,* p. 93



Anodizing Update

by Bill Seeley

Bill Seeley is an independent metalsmith with an M.F.A. from the University of Kansas in metals, particularly titanium. He is also a supplier of reactive metals to artists and the trade.

Parts List

T1	0-140V isolated variable transformer Staco-J201 or J401
BR1	400V 8AMP bridge rectifier
R1	125OHM 25WATT power resistor
R2	300OHM 25WATT power resistor
R3	1KOHM 10WATT power resistor
R4	2KOHM 5WATT power resistor
R5	3.9KOHM 2WATT power resistor
R6	10KOHM 1WATT power resistor
1	Plastic or metal box 5x6x4"
7	Five way binding posts
1	Three wire power cord

Although the basic principles involved in anodizing the reactive metals have been discussed in the past, a deeper insight into the process can aid the artist in solving some of the technical problems encountered. The publication of my thesis, "Studio Preparation and Coloring of Titanium" (available from the Society of North American Goldsmith's Book Department), along with three years of research involving numerous departments at the University of Kansas have led to the development of a power supply, an electrolyte and a number of application approaches that will both lower the cost and increase the capabilities for the artist working with these metals.

High Voltage Breakdowns

As the anodizing process is pushed into the higher orders of color (75 to 200 volts) there is encountered a point at which the process appears to break down. This is particularly true when an applicator (brush or sponge) is being used to manipulate the electrolyte. The breakdown is usually marked by steam rising from the applicator and the appearance of dull brown spots. The anodizing process has reverted to electrolytic etching and the anodic coating has begun to tear itself apart.

In general, anodic etching will begin to occur at any time that the electrolyte reaches a temperature above 90° F (32° C). The causes of this overheating are; excess current and/or the use of an alternating current (ac) power source. The cure, which will allow anodizing, in some cases, to over 200 volts, can be administered in three ways: 1) the use of a direct (dc) current power supply, 2) the addition of current limiting circuitry, 3) controlled concentration of the electrolyte. And, in this case, the application of all three is the best cure.

Before continuing, it is necessary to define voltage and current (amperage) and their relationship to the anodizing process. In its simplest terms, the flow of electrons called electricity can be compared to the flow of water running under pressure through a hose. Here, voltage is the pressure being supplied to the line and current is the volume of the hose.

While the voltage/pressure may remain the same, more material (electrons) will flow through a large-diameter hose than a small-diameter hose. That's why a toaster and electric iron (drawing high current) has a larger diameter cord then, say, a table lamp (drawing low current). Current, then, is the number of electrons in motion through the line at a given voltage.

Theory of Anodizing

It is generally understood that the colors produced by the anodizing process are generated by a transparent layer of oxide. The colors vary according to the thickness of the oxide, which in turn is proportional to the voltage applied. While this sounds fairly simple, the theory behind the process is more complex and little understood.

The most accepted theory states that the oxide layer produced on a reactive metal

Figure 1
Isolated variable transformer with six output current rectifier. Photo: Jon Blumb

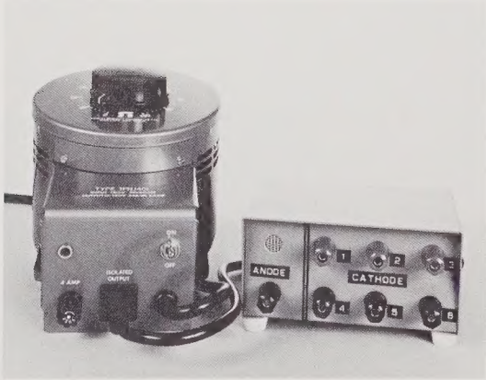
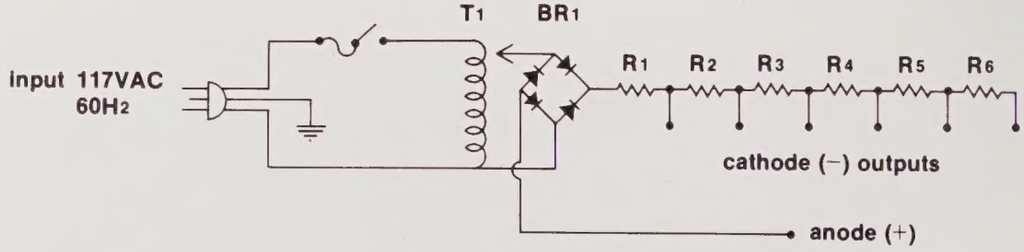


Figure 2
Pulsating DC power supply with current limit. Electrical diagram: Michael Soha



grows from the inside out. That is, the oxide is generated at the metal/oxide interface. In order for the oxygen being liberated in the electrolyte to migrate to the metal surface, pressure must be applied. The more pressure, i.e., voltage, the deeper the oxygen can penetrate to combine with the metal to form more oxide.

In the meantime, the speed at which the oxide is produced is dictated by the number of electrons in motion. The higher the current available, the faster the oxide is generated, and most importantly, the more heat produced. Just as the flow of gases to a torch must be adjusted to match the tip size, current must be regulated to match the size of the applicator and the voltages applied.

When current is unregulated, a tiny #0000 artist's paintbrush will have the same number of electrons forced through the solution on a few hairs as would pass through a house painter's four-inch brush. The four-inch brush will anodize slowly and cooly as the reactions are spread over a relatively large area. While at the same voltage steam may rise from the artist's brush and brown etched spots may occur. It follows then that the smaller the applicator and surface area and the higher the voltage, the lower the current necessary to achieve the desired effect. While with low voltages and large applicators, more current is needed to produce the effect in a reasonable amount of time.

Current Limited Power Supply

The power supply (Figures 1 and 2) produces pulsating direct current with current limiting. Voltage is controlled by an isolated variable transformer which is an exclusive product of the Staco Energy Products Company, 301 Gaddis Ave., Dayton, OH 45403 (approximately $125).

The output of a variable transformer is in the form of alternating current (ac). It can be used as is for most bath anodizing and low voltage brush applications, but is self-limiting. Alternating current, as the name implies, changes polarity or direction of flow 60 times per second (U.S.). This stop/reverse/start process generates additional heat and tends to strip masking material off the metal surface.

An ac power source can be polarized (see Figures 2 and 3) to produce pulsating direct current (dc) by the addition of a full wave bridge. This consists of four diodes (silicon rectifiers) which effectively pass current in only one direction. It is a one-way valve.

Current limiting can then be achieved by simply placing a resistor of the proper size in series with the output of the power supply. Or, a series of resistors of varying size can be mounted in a box to provide a choice of current settings. Resistors in this circuit act as a faucet and effectively control the speed of the anodizing process in relation to the applicators and voltages being used.

This simple rectifier and current limiter with six outputs can be built from readily available parts for well under $50. Parts can be obtained from a local electronics supply house or even your neighborhood TV repair shop.

Electrolyte

The electrolyte can also be used to control current. Pure, distilled water will not carry any current. The more impurities that are added to water the more current the solution will carry. While a solution with a 10% chemical additive works well at low voltages, a 3% or less solution should be used when attempting brush applications in excess of 70 volts. The idea, again, is to match the current-carrying capabilities of the electrolyte to the voltage, applicator and speed required.

A less expensive and easier to find electrolyte can be made with Tirsodium Phosphate ($Na_3PO_4 \cdot 12H_2O$) better known as TSP. TSP can be purchased in most hardware and paint stores. It is used for cleaning woodwork prior to painting. It should be mixed by weight with distilled water and makes a clear electrolyte. Tap water is not recommended. The chlorine content of city water and excess minerals in well water can adversely effect the solution and the results.

The most widely applied resistive medium now being used is tape. While electrician's black tape and even Scotch "Magic Transparent" tape can be used for some applications, Scotch "Electrical Tape #5" is specifically suited for anodizing. It is transparent, you can see it seal and it can be baked on for permanent applications. It is a polyester tape with a very aggressive adhesive designed to withstand 5,000 volts. It can be ordered through 3M distributors in widths from 1/16 to 16 inches on rolls 72 yards in length.

Application Tips

When bath anodizing, mask both the anode hangers, baskets, etc., and the cathodes to below the water line. Mask the back side of the cathode.

Do not let other metals, i.e., clip leads, copper wires, etc., to come in contact with the electrolyte.

When bath anodizing, use hangers, baskets and clips of the same metal you intend to anodize, i.e., titanium with titanium, niobium with niobium, etc.

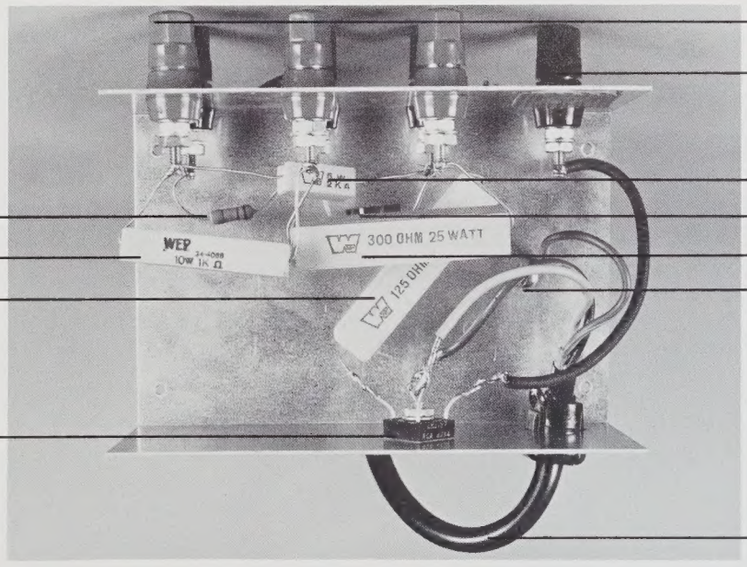
Use nylon brushes like Grumbacher's "Erminette"; they carry current better and last longer than brushes with natural bristles.

Permanently lead solder a wire to the metal ferrule of your brushes and then coat all the way to the bristles with plastic. PDS Air Dry Plastic Coating used to dip tool handles works well and is available from hardware stores and supply houses.

When brush anodizing, do not let the electrolyte run onto untreated areas or the back of the work. The current will always be drawn to the unanodized area.

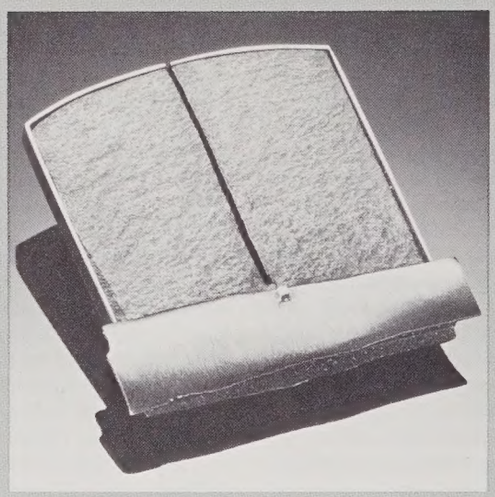
NEVER HOLD BOTH LEADS FROM THE POWER SUPPLY AT THE SAME TIME! **The old electrician's habit of keeping one hand in a pocket should be cultivated at all times. There is no way to make the equipment used for anodizing safe and have it function well.**
The dangers can not be over emphasized. ■

Figure 3
Inside the current limited rectifier. Photo: Jon Blumb



Pat Flynn

by Terri Lonier



There is something of the alchemist's magic in Pat Flynn. Like those artful wizards of long ago, he changes common materials into objects of value and delight. Rusty nails, chips of slate, slivers of ivory snatched from discarded piano keys—all transform under Flynn's skillful hand, emerging as delicate pins and brooches.

Embracing "all those things that mean 'function,'" the 28-year-old artist creates palm-size works that become wearable sculptural drawings. Seemingly simple, the pieces harbor an intensity and detail that entice the viewer to linger over them, yet never overpower the wearer. They have earned Flynn a growing reputation as a creative innovator in the field, evidenced in his numerous workshops and exhibitions, including "Young Americans: Metal"; "Copper II"; and "Good as Gold," the Smithsonian traveling exhibition of jewelry made from nonprecious materials.

In its miniature elegance, Flynn's work redefines our notions of richness. While many of the pieces feature elements of silver and gold, it is the incorporation of common materials which expands their meanings. Ignoring monetary value and tradition, Flynn chooses substances for their contributions of color or texture. Pewter and slate lend a rich grayness; ivory yields a delicate translucency; rusty nails and barbed wire reveal a character and history of their own. Drawing inspiration from his rural Pennsylvania upbringing, Flynn captures personal memories of farm life and the out-of-doors in his work. "Many of my works spring from images and feelings from my childhood on the farm," Flynn comments. "Daily life, with its patterns and rhythms, had a good discipline there. Many of the materials, colors, and textures I work with come from memories of those daily tasks—both good and bad."

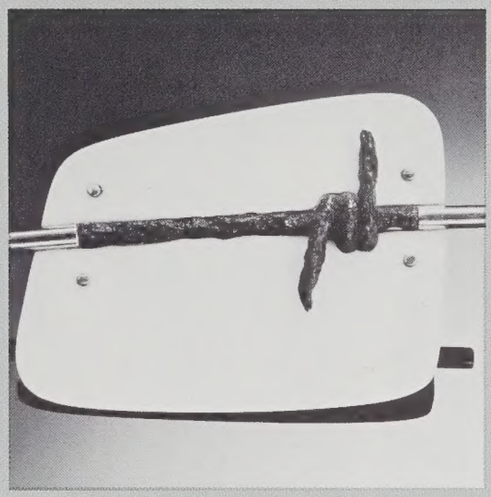
Flynn's rural experiences are complemented by his academic years at Edinboro State College in Pennsylvania and later studies at the SUNY New Paltz campus. These years, Flynn admits, gave him the solid grounding in skills and techniques he later refined working in the trade. After receiving his BFA in 1978, Flynn set up his own studio in New Paltz with his wife, Sue, and son, Jason. Renovating old houses in the area provided a part-time income while he developed his own work and tried to digest "everything that had been crammed into those years in school."

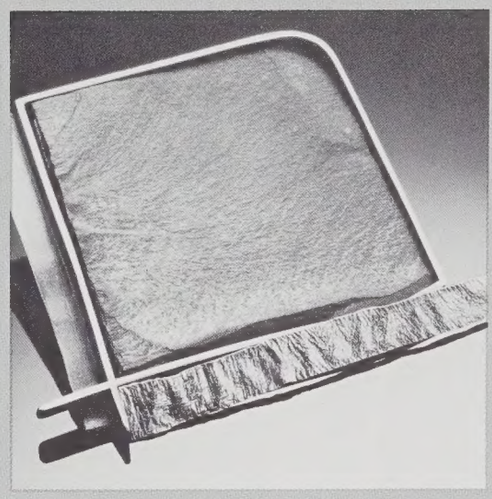
Dismantling old houses, Flynn became enamored with the qualities of many of the discarded materials, pocketing them with the thought that "they might turn into something someday." A short while later Flynn took a position in the jewelry indus-

Terri Lonier is head of Lonier and Associates, a New York City consulting firm for the arts.

Slate Pin with Slot, with sterling, 14k gold, colored pencil, 1½ x 1½ x ¼", 1981. Photo: Ralph Gabriner

Giant Energy in a Little Precious Thing





try as a designer and modelmaker, enduring a daily predawn commute to New York City. Though exhausting, the experience enabled him to perfect his skills as a goldsmith and provided a grounding which makes him highly sought after for private commission work. After nearly three full-time years with the trade, Flynn decided to work with industry on a freelance basis, which he still does frequently.

Flynn admits that much of his interest in nonprecious materials came as an outgrowth of his New York City experiences. "When I was working in the City, I would sit at a bench all day long, working shoulder to shoulder with other people. I might be soldering for eight hours straight. The last thing I wanted to do when I was back home in my own studio was to solder or work with a piece of metal. I also wanted to isolate: New York was about metal; New Paltz and my own studio was about nonmetal."

Beginning to investigate alternative materials, Flynn rediscovered many of the remnants he had saved from his earlier renovation work. "I would get an idea for a piece," he recalls, "and when I would go to my studio the materials would already be there. It was as if I had subconsciously made the work, as if it was all supposed to happen."

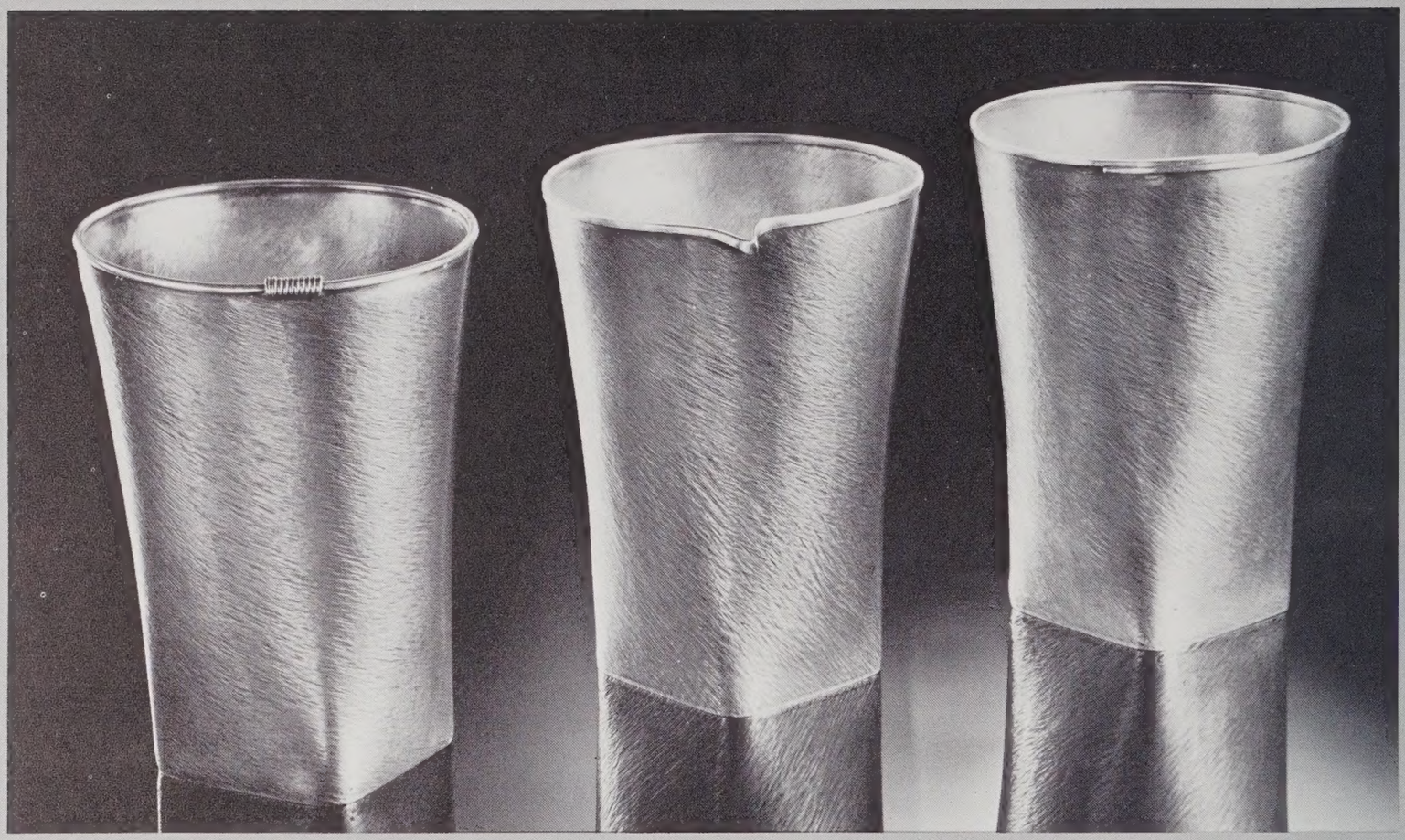
Escaping the structures and demands he finds working in industry, Flynn intuitively pushes his work to that realm where creative mischief meets the pleasant surprise. Removed from the "rules" of the trade, Flynn explores the possibilities of uncommon juxtapositions in his pieces. With a mischievous whimsy he may set diamonds in "something as 'icky' as lead, which will oxidize in a few hours, but then has a wonderful rich gray color." In the same spirit, he has also planished 14k gold on a rock "to pick up an incredible texture" for his pieces.

This element of surprise is consistent with Flynn himself, who appears—standing 6'2" tall and sporting a full beard—more a rugged outdoorsman than a maker of matchbook-size jewelry. The power of Flynn's work, however, lies beyond mere iconoclasm. While the raw materials may be essentially crude, Flynn personalizes them with meticulous craftsmanship, transposing them from mundane to meaningful.

Slate Pin from 1982 is an example of this transformation. A celebration of textures, the work reveals Flynn's sensitivity to material, surface and line. Undulating gracefully, the central slate component is highlighted by subtle blue-violet hues from colored pencils. Below, a textured ribbon of 14k gold contrasts with a sterling silver perpendicular band and frame, hinting at an organic gridlike structure.

Ivory Pin with steel, 14k gold, 1 x 1½ x ¼", 1979

Slate Pin, with sterling, 14k gold, colored pencil, 1½ x 1½ x ¼", 1982. Photos: Ralph Gabriner



Flynn's self-imposed challenge of capturing "giant energy in a little, precious thing" is evidenced in his 1981 *Slate Pin with Slot.* Inspired by the monolithic forms of tombstones, the work expresses the presence of such monuments within the span of merely one-and-a-half inches. The blue-gray slate is bisected with a jagged vertical cut, punctuated with a miniscule block of 14k gold. Flynn has again employed colored pencils in this work, accentuating the rough textures of the slate in contrast to the smooth sterling silver band at the bottom.

This same large-scale presence is contained in an earlier work, *Ivory Pin.* While the piece expresses many of the artist's personal memories, it also makes a powerful statement to a wider audience. Flynn establishes a startling juxtaposition of repulsion and attraction in the work by embedding a rusty strand of barbed wire in translucent ivory. Gold-tipped caps, reminiscent of cowboy's boot tips, elevate this rusty discard to a higher status. Flynn has created a context to focus our attention on this common material, shifting our perceptions of its meaning.

The gray oxidized surface of pewter is contrasted with gold and silver elements in a set of drinking cups from 1982. Flynn finds pewter to be an expressive material, one that permits him to work loosely and quickly. The outer forms are constructed using simple wooden tools, changing from round rims accented with gold detailing to squarish bottoms. Flynn recently shifted from hand-formed silver-plated interiors to sterling silver commercially spun linings for these pieces. The change creates a new dimensional relationship of a double cup—rounded interior bottom and squared exterior base—and presents a pleasing duality of primitive versus modern.

Flynn enjoys this continual dialogue between the technical and the nontechnical in his work, and comments, "I don't get caught up in technical virtuosity, although my work is done very caringly and thoughtfully. I use a very limited set of tools so I don't get encumbered by machines and can stay in touch with the pieces I make." He admits that his goldsmithing skills not only enable him to fabricate unusual materials with precision and sophistication, they also underscore his credibility as a jeweler. "When other metalsmiths look at my work—if they can get beyond the materials—they usually appreciate it. When you're working on such a small scale and not a lot is going on in a piece, it has to be done very carefully—and it shows immediately if you have succeeded or not." ■

Pewter Drinking Cups, with sterling, 14k gold, silver and gold plating inside, 3½ x 2½ x 2½", 1982. Photo: Ralph Gabriner

Towards A New Iron Age

by Jane Kessler

Organized by the Victoria & Albert Museum London, England

United States Touring Schedule:
National Ornamental Metal Museum, Memphis, TN *September 10-October 17, 1982;*
Flint Institute of Arts, Flint MI *November 7-December 15, 1982;*
University Museum, Southern Illinois University, Carbondale, IL *January 15-February 27, 1983;*
Mint Museum, Charlotte, NC *March 27-May 22, 1983;*
American Craft Museum, New York, NY *June 17-September 4, 1983*

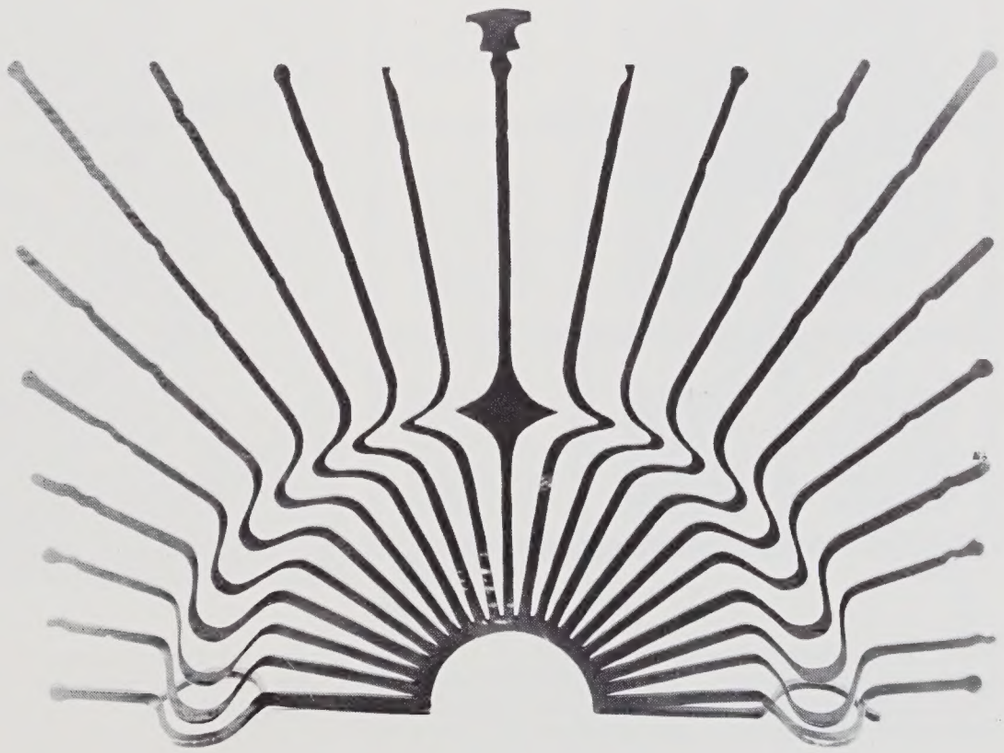
Three weeks before "Towards A New Iron Age" was to open at the Mint Museum in Charlotte, North Carolina, it arrived in a huge truck from its prior location at Southern Illinois University. An exhibition of this size (18,000 pounds of iron) would place demands on the Mint Museum beyond the capabilities of the facility and the staff. Yet the significance of the show, its potential appeal and the possibility of showing such an extraordinary collection of works by international blacksmiths seemed worth the commitment to push beyond normal limits. People in the community, interested in having the exhibition come to this area, were willing to help: A local steel company loaned a forklift, and architecture and art students from the local university, along with local blacksmiths, sculptors and metalsmiths arrived on unloading day. Within several hours, the truck was emptied and the objects inside the museum. Other institutions which participated in the tour shared similar experiences—the Flint Institute had the largest visitor turnout in its history while the exhibition was on display there.

The exhibition was a joint effort between the Victoria & Albert Museum in London and the British Arts Council (an organization similar to the National Endowment for the Arts). Its purpose was to recognize the changing status and growing autonomy of the blacksmith. A renaissance in the art of blacksmithing has occurred in Britain in the last few years, mostly due to the interest of the British Arts Council and some of the most notable and forward-thinking English smiths who propelled the age-old art from its static state to a more creative and artistically assertive future. The V&A, with impressive holdings in ironwork in their collection, recognized the rebirth of ironworking and, through this exhibition and other efforts, has supported and encouraged the movement.

Research on the exhibition began in 1978. Blacksmiths submitted slides and a selection committee of 25 (including painters, sculptors, smiths and arts administrators) selected the 51 participating artists. The V&A did not originally plan to travel the exhibition, but Jim Wallace, director of the National Ornamental Metal Museum in Memphis and an internationally recognized blacksmith, received funding from First Tennessee Bank, the Tennessee Arts Commission and the National Endowment for the Arts to bring the show to the United States.

Among the artists, not surprisingly, was a healthy representation of English blacksmiths. The other countries represented were Switzerland, the United States, Japan, East and West Germany, Italy, Austria, Scotland, Czechoslovakia, France and Finland. Blacksmiths from the United States were Philip Baldwin, MO; Brent Kington, IL; Jan Brooks Loyd, NC; Albert Paley, NY; John Dittmeier, DE; and Jim Wallace, TN. One criticism of the exhibition had been that other noteworthy blacksmiths in the United States were not included. Jim Wallace attributed the oversight to the fact that many smiths, not in the habit of submitting to art exhibitions, had poor-quality visual presentations that did not adequately represent their work.

I found the work by the smiths from the United States to be among the most innovative and to reflect a sensitivity to the disciplines of painting, sculpture, surface design and jewelry more so than works by smiths in other countries. This supports my belief that



Stuart Hill (England) *Sunburst Firescreen,* mild steel, made from a single piece of steel plate cut, and fanned into shape, 63.5 x 91.5 cm, 1981. Photo: F. Jack Hurley

Jane Kessler is assistant curator of exhibitions at the Mint Museum

over the past decade the lines between what has been designated craft and the other arts have become less and less distinct. This is indicative of a lively discourse among artists in the United States, fostered by publications, exhibitions and the educational system. When works by artists of different nationalities are juxtaposed, the unique sensibilities of the American artists are obvious. American blacksmiths seem to have more effectively moved into the 20th century, bringing with them the knowledge of the tradition but not clinging to its application.

Albert Paley, recognized as one of the most important figures in contemporary blacksmithing exhibits *Rectilinear Gate* (1982) which was unquestionably the most awe-inspiring piece in the show. Paley, known for his organic twisted forms—convoluted, fluid tendrils that intertwine, brings his training as a jeweler to his work, and this can be seen in the extraordinary attention to detail and the fine finish. This work is undeniably 20th century. The tremendous scale of the steel pieces that Paley manipulates could not have been made without the help of modern machines. The smooth finish, a sensuous softness of color and surface, the fact that the method of joining metal to metal is not obvious are all clues that Paley's interest lies in the art object. The metal is clearly subserviant to the concept. The finish on the gate is not durable, and as it is now it would have to remain in a protected environment, on display, as an art object. To be used in a functional, architectural outdoor setting, it would have to be painted.

Brent Kington, nearly as influential as Paley, has taught many of the metalsmiths now working in the United States. The two pieces in this show were typical of the best of Kington. Both are finely balanced weathervanes which function as kinetic sculpture. The smaller of the two is a spectral figure—an owl-like face, counterbalanced by two fingerlike fins protruding from the back. The whole piece is a scrumbled white, created by layers of Gesso, and the little benign, ghostly figure bobbles mysteriously on a tiny point.

Jan Brooks Loyd, one of Kington's students, had one of the most graphic pieces in the show. Her sculptural wall piece recognizes the basic plate form which it both denies and reveres simultaneously. Loyd typically explores surface texture and coloration of metal in her work and uses techniques for coloring that are centuries old, as well as those she has discovered herself. Within this exhibition, her piece was the most far-removed from a functional origin. A strong piece, it excellently represents contemporary applications of metalwork.

There seems to be a consensus among artists, curators, architects and other blacksmiths who have seen the show that three of the strongest works were made by Swiss artist, Jan Dudesek. Dudesek's work combines the best of "form follows function" with a keen and sensitive esthetic sense. His work demonstrates that clean and simple, typically Scandinavian design sensibility. *Fire Irons With Stand* are three beautifully simple linear tools which use a smooth rock with a carved groove as a base. The tools are neither too light nor too heavy for actual use. His *Griddle with Stand* is ingeniously designed. A gliding metal ring on a vertical upright becomes a stationary support in response to the weight of the cantilevered griddle. The work is assertive as a strong, abstract graphic design. Form and function in this work are equivalents.

Blacksmithing in Germany is apparently thriving and for a number of reasons. Commitment of 10 percent of the income tax to churches establishes a pool of funds from which commissions for repair and embellishment of structures is available. Apparently the state is also a ready patron, and there is a healthy apprenticeship program which encourages the growth and preservation of the craft. The German work in this show was to me the toughest, visually, the least lyrical, the least delicate. I was much more aware of the iron itself, of its having been bent, hammered and joined.

This was also true of some of the grillwork. Sections of grills by Ian Lamb, an English smith, are exemplary. A power hammer had been used by Lamb to impress the hot iron as he turned each iron bar underneath the hammer, creating a repetitive, often twisted pattern. These sections, like salesman's samples, are used by the smith to indicate what might be done on a larger scale.

There were many sections of fences or gates in the exhibition. In almost all cases, the section was unable to relay the visual impact of an actual fence. Manfred Bredohl of West Germany exhibited a piece of a lattice gate, part of the design of a gate for Munich Town Hall. The section showed forged pieces which crossed in an "X" pattern with blobs of iron hammered flat on the ends of the cross pieces. The section shown was fairly inimpressive, but a photograph of the gate installed showed it to be an intricate, almost lacelike design that is truly exquisite.

The *Millbank Fence* suffered similarly.

Kanko Moisio (Finland) *Dining Chair,* stainless steel and leather, 68 x 52.5 x 46 cm, 1981. Photo: F. Jack Hurley

Jan Dudesek (Switzerland) *Griddle with Stand,* mild steel, 40 cm h., 1980

This piece by Stuart Hill was one of the few pieces in the show with color. The vertical posts were painted a bright green and the adjoining tubular elements, which looked like sausages, bright blue. The section of the fence that we see was intriguing, lighthearted and interesting because of the joining technique. But we missed the overall effect of this bright contemporary design repeated and making its way across a vast expanse of lawn.

The European masters in this show were Fritz Kühn and Antonio Benneton. Both of these revered blacksmiths have sons with national reputations who also had work in the show. Fritz Kühn, now deceased, was represented by a section of the entrance doors to the Berlin City Library. This beautiful piece consists of 117 squares of metal, each bearing a different calligraphic representation of the letter "a." Its forged steel surfaces are embellished by copper fusing, enamel and gold leaf. Each of the letters is either carved or punched on the individual steel square, and the color flashes across certain parts of the squares randomly.

Most of the pieces in the show were hot forged. Some more effectively illustrated the plasticity of iron in its malleable state. Kühn's forged bowl is a massive piece in which the sides of a very thick slab have been pushed in toward the center, resulting in an undulating, powerful form.

Kühn's son, Achim, exhibited *Swinging Steel,* a complex screen of steel forged with hardened highgrade steel. U-shaped polished rods with steel balls on their ends are forged to steel upright rods. These groups of U-shapes are positioned at varying levels on the uprights with the upper U-shapes pointing upward and the lower U-shapes pointing downward. The pattern established is very rhythmical. As an outdoor piece, it is an irresistible playtoy. People responded to it as they might to a musical instrument.

Antonio Benneton, the Italian master, and his son Simon are both known for sculptural pieces which are not forged but gas cut from a flat piece of steel and then bent or folded into sculptural pieces. Stuart Hill applies this technique of gas cutting to more functional pieces. Hill's firescreen and firebasket are excellent examples of the single-sheet, nonforged process. Gas cutting leaves a typically ragged edge to the pieces, but this is not an undesirable feature.

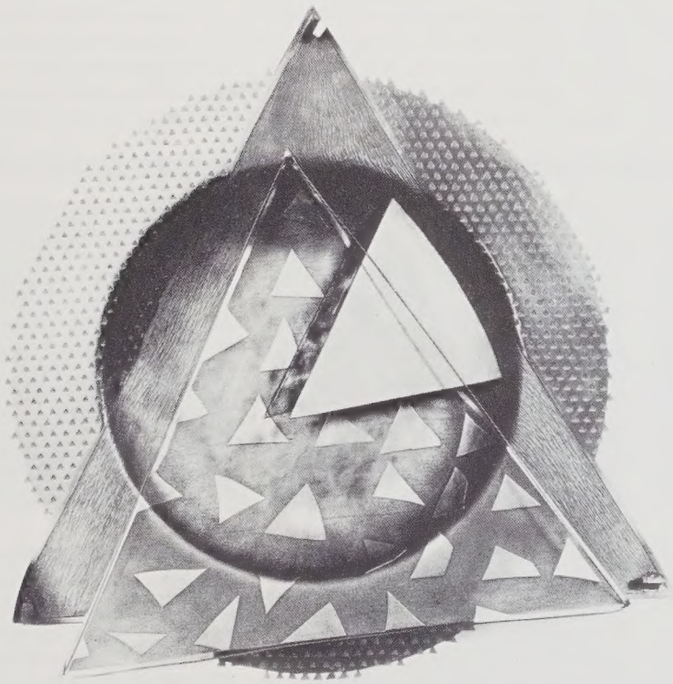
Of the functional pieces in the show, there seemed to be an inordinate number and wide variety of firebaskets. The best of these had a beautifully abstract sculptural quality and the worst were square and boxlike, their esthetics having been sacrificed to function. Other functional pieces included fire dogs, candleholders, door knockers, book ends (the work of one Japanese artist) and knives. A dining chair by Kauko Moisio of Finland is beautiful to look at—one stem branches into four supporting feet and blossoms at the other end to hold a piece of leather which flows from the edge of the seat to the top of the back. The appeal, however, wears off quickly once one is seated. Two small knobs are positioned at kidney level. Having a snack would be difficult in this chair and dinner unthinkable.

The jewelry was the most pleasantly surprising. The craftsmanship was very fine and without exception, each artist had refined the work to a degree of perfection. There were many innovative designs—ovular bracelets, asymmetrical neckpieces and rings fashioned from gun barrel sections. Some looked unwearable but I did not try them on, so I am not certain this was true. I was absolutely captivated by the work of Pierre Degen of England. His works are tiny sculptural constructions of steel rod triangles conjoined with whipping thread and often including a tiny hook or two. They were the smallest pieces in the show, and, for me, the most intriguing. Though Degen calls them brooches, I couldn't figure out how one would wear these pieces. For me, however, their wearability, or the lack of it, was inconsequential.

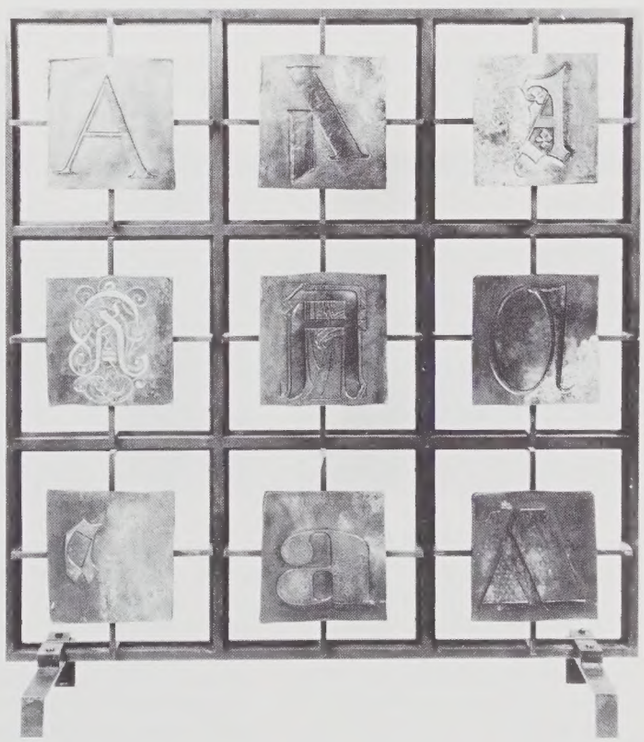
Allison Varley, another English artist, created two tiny hinged boxes of mild steel, inlaid with white, yellow and green metals and oxidized black. They have a very oriental flavor and make direct reference to Japanese sword decoration.

This collection of works was incredible just in the breadth of scale and the diversity of objects. Its significance to blacksmiths and those who wish to follow the progression of a centuries-old craft lay in the historical documentation and in the recognition of its resurgence as an art form. It was an exhibition to be enjoyed by people who may know of a blacksmithing tradition in their own families, by connoisseurs of fine art or by anyone who enjoys the uniqueness of a beautifully handcrafted object. ■

A catalog of this show is available from the American Craft Council Publications Department, 401 Park Avenue South, NY, NY 10016; members' price $9, nonmembers' $10 (including postage); plus appropriate sales tax.



Jan Brooks, Loyd (United States) *Crossed Signals,* mild steel, 33 cm d., 1981. Photo: George Erml



Fritz Kuhn (Germany) *Panels,* for the entrance doors to the Berlin City Library, forged steel, enameled copper, gold leaf, 1.4 x 1.25 m x 49 cm d., 1965. Photo: George Erml

Photoetching for the Studio Jeweler

by Allan Liu and Carol Webb

In photoetching a photo transparency defines the area of a metal plate to be etched. The transparency is the control unit, the program, that prescribes which parts of the light-sensitive resist will chemically harden, polymerize, to become impervious to attack by the etchant. In our prior article (Metalsmith, Summer 83) we explored the making of the photo transparency. Now we shall look at the etching process itself.

Photoetching begins with the light-sensitive resist. All photo resists can be classified as either negative-working or positive-working, depending on the negative or positive areas of the image to be etched. We can, for instance, decide to etch either the area of a metal plate that has been struck by light or the area that has not. Our choice will determine whether we use a positive- or a negative-working resist. In terms of the photo transparency, the area struck by light corresponds to the clear area of the transparency, while the area not struck by light corresponds to the dense or opaque area. To etch the area that has been exposed to light, we use a positive-working resist; to etch the unexposed area we use a negative-working resist. In actual practice, however, it's usually possible to standardize on just one kind of resist and use either a positive or negative photo transparency to determine which areas of the image will etch. For example, an intaglio image on metal can be produced in one of two ways. We can either sensitize the metal with a negative-working resist and use a positive photo transparency of the image to be etched. Or we can use a positive-working resist and a negative photo transparency. Conversely, if we wish to produce a relief image, we do just the opposite. We sensitize the metal with a negative-working resist and use a negative photo transparency of the image, or we employ a positive-working resist with a positive photo transparency.

Photo resists are available from many sources. Manufacturers in the photo-fabrication and electronics industries obtain theirs from such large-scale suppliers as Eastman Kodak or Norland Products Company. Studio jewelers, however, seldom need the quantities offered by these suppliers. A few ounces are sufficient for etching many jewelry pieces. Since photo resists have a limited shelf life, it makes little economic sense to purchase in bulk. Fortunately, most well-stocked electronics specialty stores now carry negative- and positive-working resists in small handy spray cans.

Although intended for the electronics hobbyist these resists and accessory products serve the needs of the studio jeweler quite well. Bearing such brand names as Injectoral, GC Electronics, Photax and Kepro, they are designed primarily for use with ferric chloride, a mild etchant capable of producing fine detail on copper and such copper-rich metals as brass and bronze. While not recommended for use with the traditional acids favored by most jewelers, such resists can withstand brief immersions in those baths. But on copper and its kin, ferric chloride etches so well that the traditional acids are not really necessary. For etching silver a 55 percent solution of ferric nitrate produces excellent results. For etching gold in aqua regia, however, we recommend a hardier material such as Kodak Thin Film Resist.

Working with photo resists is really no different from working with other light-sensitive materials. The steps followed to produce a photoetching are essentially the same as those taken to produce a photo transparency from a camera negative. For a detailed look at those procedures we refer the reader to our prior article on transparency making (*Metalsmith*, Summer 83). Working with photo resists, however, does offer one decided advantage to the studio jeweler: a darkroom isn't needed. Lacking the extreme sensitivity to light of traditional photographic films and papers, photo resists can be handled in subdued room light. They are sensitive primarily to ultraviolet radiation and so need only to be shielded from inadvertent exposure to sunlight or other sources rich in UV.

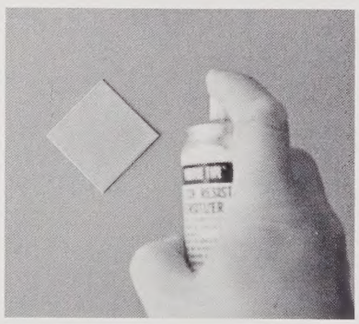
Sensitizing the Metal

The first step in making a photoetching is to clean the metal to be etched. The surface must be flat, smooth and free of grease. Begin by removing all scratches and other surface blemishes; then scrub with pumice or other fine abrasive cleanser and hold the metal under running water. Water should disperse evenly across the surface. If it forms into beads, the surface is not grease free. Try a degreaser such as a trisodium phosphate-based household cleanser. Wash the metal again and dry it carefully; avoid touching the surface with bare fingers.

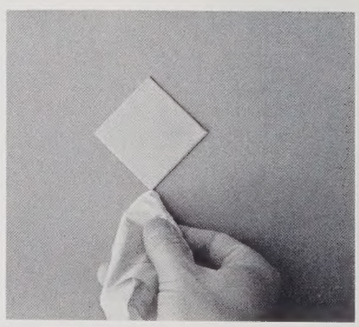
For convenience in handling while applying the photo resist, tape the metal to a piece of cardboard with a piece of double-stick tape and position the metal so that one corner points down. This allows excess photo resist to drain to one area of the metal so it can easily be soaked up with tissue paper. Metal pieces can be sensitized outdoors at night under the illumination of a low-wattage household incandescent bulb. For more light

the Etching Process

Some materials used in photoetching, from L to R: Positive working photo resist with its companion sodium hydroxide developer, chlorinated solvent developer and its companion negative working photo resist, ferric chloride etchant for copper and its alloys.



After careful cleaning the metal to be etched, here a piece of copper, is attached to a sheet of cardboard with double-stick tape. The cardboard is then propped up vertically and the photo resist sprayed on. This must be done at night or under proper safelight conditions.



Attaching the metal piece with one corner pointed down encourages excess photo resist to collect there for easy removal by blotting with a piece of tissue paper. In a half hour the surface will be dry enough to allow the metal to be removed and stored in a light-tight box.

with less danger of inadvertent exposure try a yellow "antibug" light. Working outdoors allows for rapid dispersal of spray mist.

In applying the resist, first prop up the cardboard on which the metal piece is attached. Hold the can of photo resist about eight to 10 inches from the cardboard and begin spraying in a rapid horizontal motion covering the metal from top to bottom. The objective is to apply one coat of resist as evenly as possible. Wait a few minutes for the excess spray to drain; then carefully apply a piece of tissue paper to absorb the excess resist. Otherwise a thick ridge will form that may lift in the etchant. Let the coated metal dry for about a half-hour in the dark. Then carefully remove the metal from the cardboard and place it in a light-tight box to dry thoroughly overnight. The next day the metal plate will be ready for exposure.

The light source used to expose the plate must be rich in ultraviolet radiation. Carbon arcs, mercury vapor and pulsed Xenon lamps and "black light" fluorescent tubes, all rich sources of UV, are typically used in industry. For the studio jeweler, however, a cheaper, less elaborate source of UV is also available. We've used sunlight as the sole exposure source with excellent results. Exposure times will, of course, vary depending on weather conditions. Different brands and types of photo resists may also require different exposure times. On a bright clear day, for instance, we've found that Injectoral negative-working resist requires four to five minutes exposure. On the same day with the same transparency, however, GC Electronics brand negative-working resist will need only about half that exposure time. On overcast days we use a photographic light meter to measure the exposure. We double the exposure time when the meter indicates that the light level has fallen by one f-stop. On a day where the light level is two f-stops less, we quadruple the exposure time.

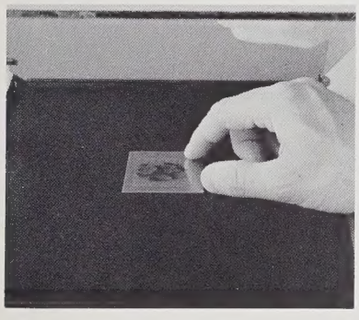
To expose the sensitized metal plate to sunlight use a photographic contact printing frame, the same device used for making photo transparencies from camera negatives. The purpose of the printing frame is to hold the photo transparency in tight contact with the sensitized metal during exposure. Tight contact must be maintained throughout the exposure to achieve a sharp, clear transfer of the image. We prefer the top- or front-loading frame design over the rear- or back-loading one because the former makes it easier to position the transparency accurately on the metal surface. But either design will serve.

After exposure the metal piece must be "developed." This step is not development in the photographic sense, rather, it is the chemical removal of the resist from those areas of the metal intended to be etched. This is done by soaking the exposed metal plate in the proper chemical solution. Which solution to use depends on which photo resist was employed. A negative-working resist requires a chlorinated solvent, such as trichloroethylene or 1, 1, 1-trichloroethane; a positive-working resist needs a dilute solution of lye or sodium hydroxide. Each acts differently on the exposed metal piece—the chlorinated solvent loosens and removes the resist that has not been struck by light, whereas the sodium hydroxide solution makes soluble the lightstruck resist. These solutions work properly only when used with their intended photo resists. They cannot be used interchangeably.

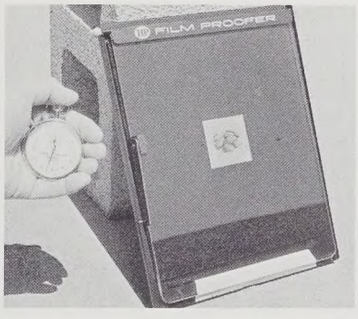
After soaking, with gentle agitation, in the proper solution for about a minute-and-a-half, carefully remove the metal plate and place it under running water to flush away the loosened resist. Until this point in the sensitizing process the plate has been protected from stray UV radiation. Now the piece is no longer UV sensitive and may be examined in bright light. If all has gone well, a minute relief image on the metal surface should be discernible. This image should be as fully detailed as the image on the photo transparency, unless the plate was either vastly overexposed or underexposed. If the latter is true, the metal should be recleaned and the sensitization process started anew. But if all has gone well, proceed to the next step: the etch itself.

Preparing the Sensitized Metal for Etching

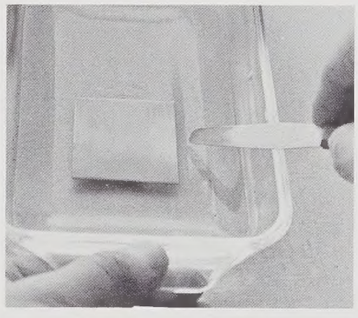
Before etching the plate, all traces of developer residue must be flushed away and the piece thoroughly dried. Drying can take place atop a kiln or other warm surface, or the plate can be left in the sun for an hour or so. If one of the traditional acid etchants is to be used, then we recommend drying in a 250°F kiln for about 10 minutes. This so-called postbaking step is intended to drive off the last vestiges of developer and harden the resist coating to the maximum. Any trace of developer left in the piece can promote early failure of the resist in the acid etchant. Even with this postbaking procedure, the acid etchant should be as diluted and the etching time as short as possible. For a mild etchant like ferric chloride the postbaking step is not necessary.



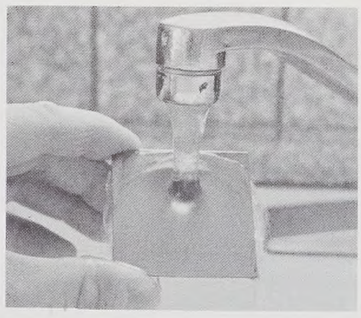
After drying thoroughly overnight the metal is placed in a photographic contact printing frame, and the photo transparency bearing the image to be etched is positioned carefully on the sensitized surface.



Exposure time outdoors in direct sunlight varies from about two to five minutes depending on the overall density of the transparency and on the type and brand of photo resist used. The strip of tape at the bottom of the printing frame is used to keep the glass platen pressed tightly against the transparency and sensitized metal.



Following exposure the metal piece is placed in a developer solution, either a chlorinated solvent or dilute sodium hydroxide, depending on whether the resist used was negative or positive working. After about a minute and a half a palette knife is slipped under the metal to lift it out.



Running water flushes away the photo resist that has been partially dissolved in development. It's important to clear off this loosened resist so that bare metal is exposed to the etchant. The metal piece must be thoroughly dried and all traces of developer removed before etching.

One final task remains before etching the piece. Since only the front surface of the metal was covered with resist, the back and edges remain unprotected. Any of the traditional resist coatings may be used, such as hard ground or asphaltum. We've found, however, that the cleanest, simplest protective coating is an application of household package sealing tape. Use the two-inch-wide transparent variety, which is very sticky and seals well against penetration by the liquid etchant. Its tough plastic surface seems to hold up as well as the resist itself. For ease in handling during etching, affix the tape-wrapped metal to a piece of plexiglass which has been cut to fit the etching container, a small, rectangular, heavy-duty glass baking dish. The plexiglass holds the metal above the curved bottom of the etching container. Use ordinary masking tape to attach the sealing-tape-wrapped metal to the plexiglass. Attach it upside-down because, unlike traditional acid etchants, ferric chloride produces no gas bubbles when it etches. These bubbles help remove the dissolved metal from the etched areas. Attaching the piece upside-down allows the dissolving metal to fall away from the etched areas.

Etching the Metal

As we mentioned earlier, ferric chloride is a good etchant for copper and its alloys. It is sold in liquid form in the proper concentration. It can also be mixed from the dry chemical by dissolving enough to produce a solution whose density is 36° to 42° Baumé. Ferric chloride is also a fine etchant for nickel and its alloys. Cupric chloride and ammonium persulfate are two chemical etchants that may be substituted for ferric chloride. For etching silver, make a solution from ferric nitrate crystals—four ounces of crystaline ferric nitrate powder and enough water to make four ounces of solution.

Heating the chemical etchant shortens etching time. We use a double-tray arrangement: a smaller tray containing the etchant is placed in a larger tray containing hot water. We also use an aquarium air pump to force air bubbles against the metal surface as it is being etched. This makes up for the lack of gas bubbles when using ferric chloride or ferric nitrate. It hastens the etch and seems to produce a cleaner, deeper line with less undercutting. Etching time in the setup described here runs about five to six minutes with ferric chloride and four to five minutes with ferric nitrate. If the piece seems overetched in this time, it's likely to be underexposed and should have received more time in the sun; if the piece lacks the fine detail evident in the photo transparency, it's been overexposed. Exposure time is critical to a good etch. To stop the etch merely flush the piece with running water. The etching is now complete.

To remove the hardened resist scrub the piece with pumice. Commercial stripper solvents are also available. Pieces etched in ferric chloride display a characteristic dark coating in the etched area. This coating, which is very similar to the results obtained when using an oxidant such as liver of sulfur, is a byproduct of the chemical reaction between etchant and metal. It may be left in place, or it can be removed by soaking for a few minutes in a dilute solution of sulfuric acid.

Conclusion

This concludes our series of articles on transparency making and the photoetching process. These methods are sound and offer the studio jeweler a low-cost introduction to photoetching. If nothing else we hope to have dispelled any notion that the process is difficult or mysterious. Photoetching is easy to learn and holds promise for anyone willing to master the craft. Here at the Metalworks we are trying to expand our basic repertoire with further experiments in electrodeposition, multiple metal etch and fill inlay techniques. We believe the concept of imagery, as distinct from design, in metalsmithing has been little explored. It is our hope that a growing interest in photoetching will stimulate an awareness of imagery and lead to an accepted esthetic for its use. ■

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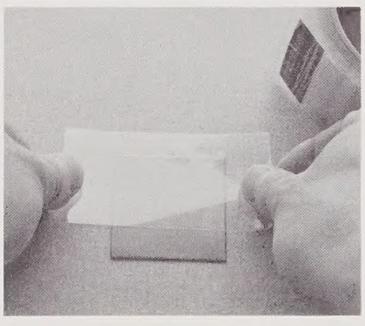
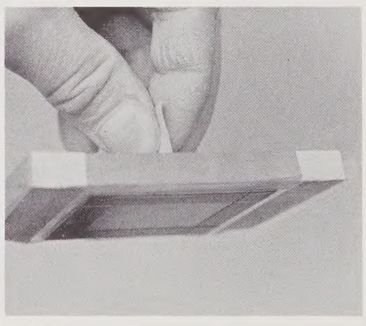
A custom jeweler, Carol Webb owns and operates the Metalworks in Capitola, CA. Allan Liu is a photographer associated with the Metalworks.



The back and sides of the metal plate must be protected from attack by the etchant. Here transparent package sealing tape is applied to create a water-tight envelope around the metal, leaving only a window on the front to expose the area to be etched.



The transparent tape sheathed metal is attached to a block of plexiglass with masking tape for ease of handling in the etchant. A tab made of masking tape is affixed to the back of the plexiglass to keep the fingers out of the etchant.

The plexiglass bearing the metal piece is immersed face down in the ferric chloride etchant. An aquarium pump tube forces a stream of air bubbles which help dislodge the residue to produce a deeper, cleaner etch. Here the inner tray contains the etchant while the outer tray contains hot water to speed up the etch.

In this fabricated piece by Carol Webb the delicate tracery of the nickel silver bezel frame, echoed by the shadowy jutting reeds cut from green plexiglass, suggests the flora that in nature would surround this photoetched image on copper of ducks in a pond.

Exhibition Reviews

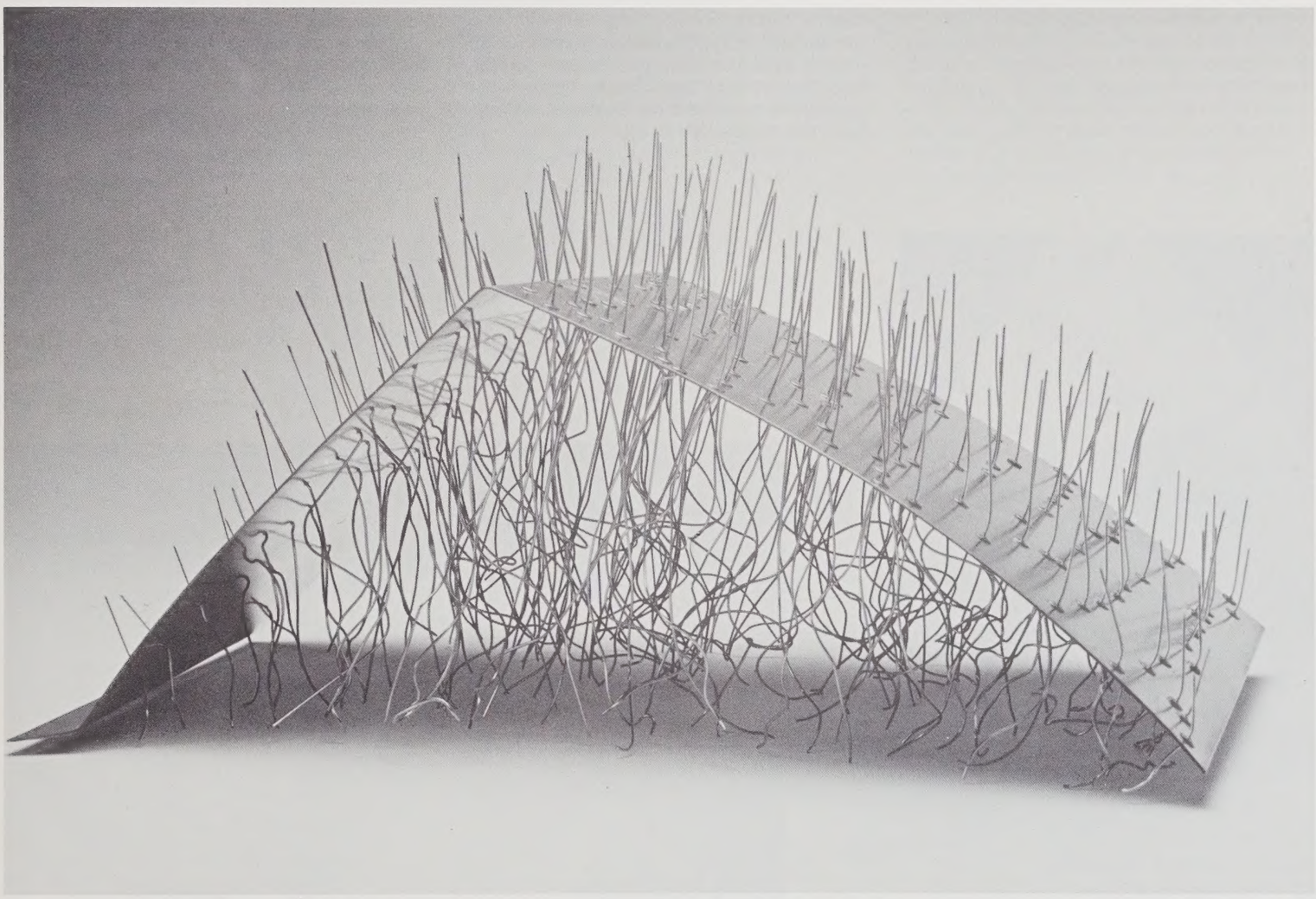
Thelma Coles, Metalwork
Haggar Gallery, University of Dallas
Irving, TX
February 14–March 4, 1983
by David Keens

The recent exhibition of new work by Thelma Coles at the University of Dallas provided the viewer with an opportunity to observe well-conceived, meticulously crafted metal sculptures. The group of eight pieces, constructed of copper, stainless steel and silver, varied in scale by several feet, but more important than their size or materials were their intrinsic references and their reflection of the artist's perception of and responses to various cultural phenomena.

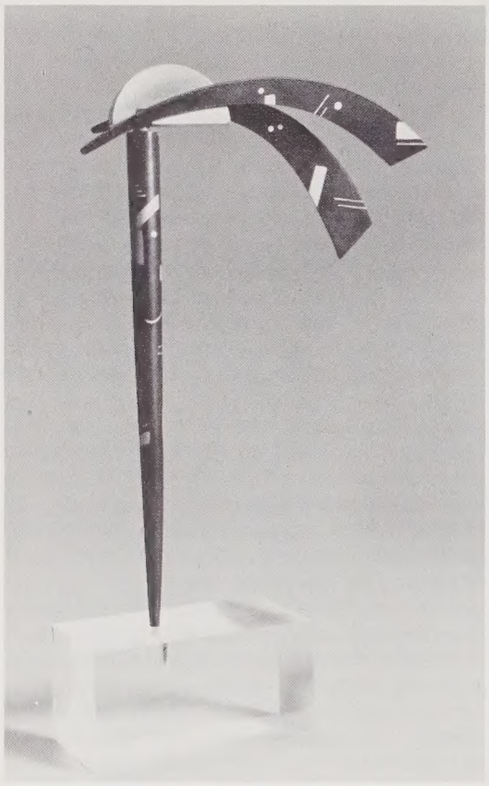
Perhaps the most striking of the work presented were the two largest pieces entitled *Root Structure Response* and *Root Structure Reliance.* Conceived as responses to a brief stay in the rural dwellings of central Mexico, the pieces present peaked-roof structures perforated by tendril, vegetation-type forms which fill the sheltered space below. The "roots" offer physical support as well as a sense of impermanence and fragility to the roof structure. There is a conscious ambiguity concerning the distinction between inside and outside, suggesting both the vulnerability and restrictive qualities of dependency that exist in the rural Mexican culture.

The remaining pieces in the exhibition were more closely related to one another in both idea and structure. *Contingent Perception* was perhaps the strongest sculpture in this group. The piece addresses various concerns of dependency between man and nature using forms derived from ocean piers and boat docks as metaphor. The delicate silver "ropes" span open spaces between "floating" elevated platforms, bordering a graceful, undulating plane. The influence of the Texas Gulf Coast fishing community is clear. The physical dependency on the ocean for "support" is expressed through the structural interdependency of the forms, while at the same time man's immanent need to extend beyond complete dependency is implied by the structure itself stretching out from the land.

This group of new sculptures by Thelma Coles utilizes various concepts of interdependency that she addressed in earlier wearable pieces, but the abandonment of jewelry scale has provided a less restrictive format, thus allowing a stronger sense of concept/form relationships. ■



Thelma Coles, *Root Structure Response,* copper and stainless, 25x16x13"



Arizona Metal
Scottsdale Center for the Arts, Scottsdale, AZ
March 22–April 17, 1983
by Joseph E. Young

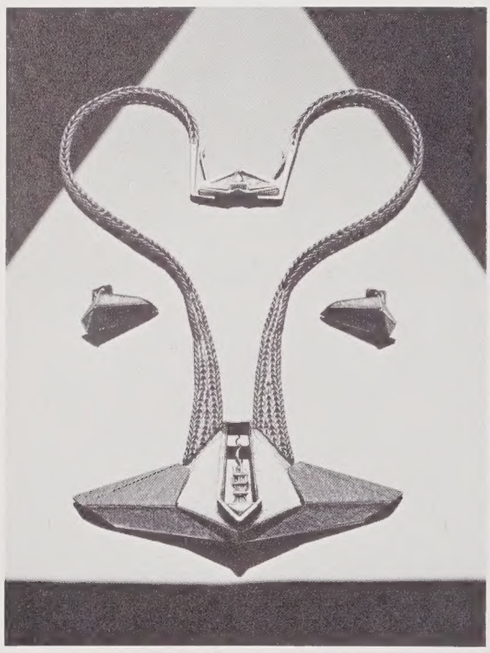
As an invitational exhibition of works by 14 artists, "Arizona Metal" attempted to present a generous sampling of Arizona's best contemporary metalwork. The emphasis was on innovative techniques and images. Occasionally a utilitarian work was presented, such as Tai Goo's wrought iron *Barbecue Set,* which in its delicate craftwork and design rivaled the metalwork of Antiquity. Goo's *Knife and Sheath,* created with damascus steel, bronze and various hardwoods, typified the elegance and exquisite refinement that characterized the exhibition as a whole.

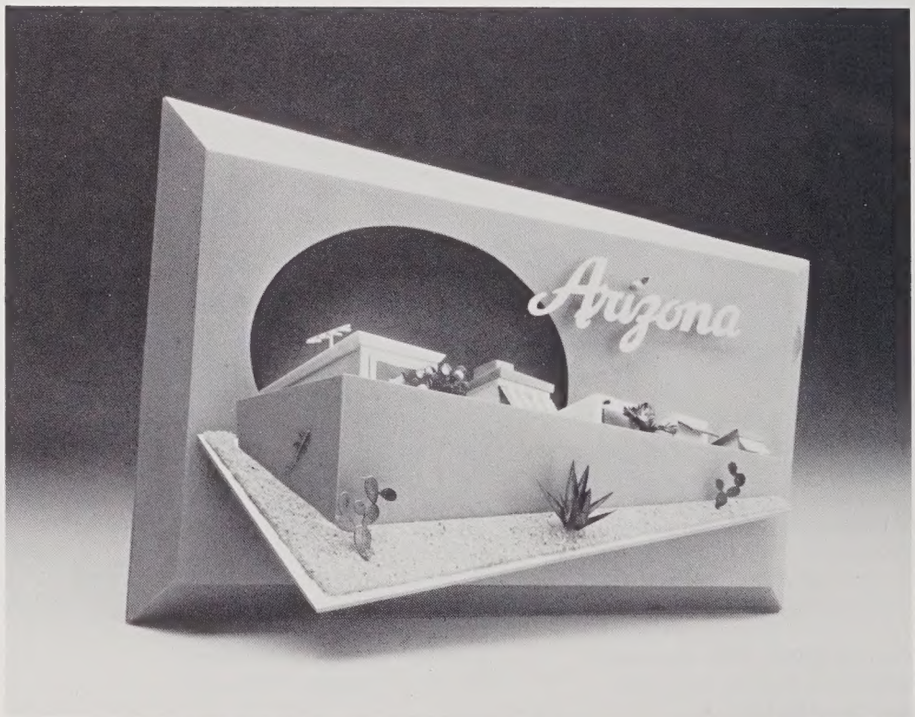
Several jewelers exhibited fine works ranging from Clare Yares's heirloomlike cufflinks and rings to Cornelis Hollander's more contemporary appearing 14k gold rings, which included a large, round, cut tourmaline stone offset by a somewhat superfluous diamond. Of the traditional jewelers represented, John Hays seemed the most outstanding. While his *Pendant* resembles Art Deco in its exterior geometric construction, iridescent colors and nonprecious and odd-shaped stones, what resembles a tiny gold sculpture as the focal point of the piece animates the interior of both pendant and clasp.

In startling contrast to such traditional elegance were the whimsical creations of Peter Jagoda and Dawn Nehls. Typical of Jagoda's diminutive metal fantasies were *Doz Tips,* a madcap fantasy crafted of bronze, brass and sterling silver in the form of two miniature bulldozers, which appear to be completely functional and designed to "protect" the toes of leather cowboy boots. Also inspired by the jeweler's craft were Dawn Nehls's sculptures, including *Arizona.* Incorporating copper, sterling silver, nickel, titanium and gravel, this work portrays a miniature billboard with "Arizona" floating in metallic relief above the perspective view of a retirement trailer park.

Less topical in their visual references, and the most impressive works on view, were those of Michael Barr, the guest curator of the exhibition. Of the works presented, Barr's alone seemed best to represent both the synthesis and extension of the metalsmithing tradition. For his ingeniously conceived vases, Barr combines forged steel and silver holloware construction which suggests the work of a modern-day Cellini. His *Thumb Tack* series of maquettes are created from steel and inlaid with sterling silver to create geometric surface decorations, vaguely redolent of early designs by Vasily Kandinsky. Measuring approximately four inches tall, Barr's *Thumb Tack* pieces are designed to be fabricated in steel and aluminum and to measure from four to eight feet tall in order to take advantage of the sheer grandeur that size alone can impose.

In terms of its stated goals "Arizona Metal" was highly successful, presenting an impressive array of fine craftsmanship as well as a broad diversity of esthetic expression that does, in fact, seem to typify the better metalwork currently being produced in Arizona. ■





Top Michael Barr, *Thumbtack 18,* inlaid sterling and steel, 4½" h. **Right** Dawn Nehls, *Arizona,* copper, sterling, nickel, titanium and gravel, 10x 8", 1981. **Above** John Hays, *Pendant,* sterling, 14k gold, aquamarine with gold and silver two-tone chain

Richard Reinhardt
Helen Drutt Gallery, Philadelphia, PA
April 30–May 21, 1983
by Sharon Church

Richard Reinhardt's recent exhibition of jewelry and holloware at the Helen Drutt Gallery was perhaps the most profound grouping to date of this artist's work. The past five years have been a period of intense growth and discovery for Reinhardt. He returned to the world of teaching and his own artistic development after a 17-year career in academic administration. His renaissance as a metalsmith was launched in October of 1978 with a collection of jewelry made up of belt buckles, neckpieces and bracelets. It was the bracelet, however, that became the focus of his interest in circularity and continuity. As the circular format suggests, he found himself engaged in an endless pursuit, following the evolution of design and technique through one form to the next. Occasionally his solutions find expression as either torques or holloware, but it is the bracelet format which continues as central to his endeavor.

The geometry and engineering of his work are not new in and of themselves, but their application to a jewelry/smithing format finds a unique reality in Reinhardt's work. His great ability is in understanding and personalizing the facts and formulas of the three-dimensional world and applying them to body ornament and functional ware. Much of Reinhardt's work is about design process. The art, the invention, is in his perceiving possibilities. By altering parts, there are infinite solutions suggested in any given problem. And thus, beyond each piece there exists for him a thousand pieces. As much as design derives from the intellect, here is also the love for tradition, craft and material. The elements are products of tools and process; the mark of the maker is left on the surface and in the form. The pieces have a warmth and sensuality that stem from Reinhardt's understanding and acknowledgment of his heritage.

His work is evocative in its profound simplicity of form. Because of its circularity, the work initially appears simple, perhaps even facile. Further investigation reveals something quite different. Ambiguity and illusion strike against one's first impression; there is a mystery to the work and the viewer is suddenly involved. Whether in the main group of bracelets or in his torques and most recent holloware, it is through his countless modulations of form and content that we participate in his intellectual intrigue. Thick, heavy lines wrap around and around, in a dizzying journey across and through the form. A broken line continues only in illusion; a solid mass is actually many parts. The casual observer might miss all of this, but those who look closely discover this "discontinuous continuity," the term Reinhardt uses to describe his ongoing fascination with what is there and what is merely suggested.

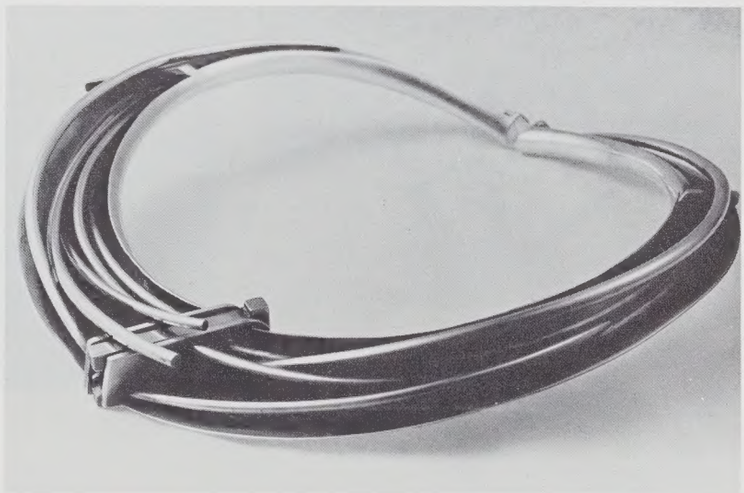
All this is there for the viewer and the participant. If one cares to become involved with the intellectual aspects of this work, good. But Reinhardt's main concern is that his work be appreciated primarily for its use and beauty. Not only must the bracelets embody his design principles, they must be wearable and durable, lasting beyond our time. Moreover, design considerations must be in total sympathy with the utilitarian objective. Thus he affords several entry levels for the viewer and communicates through each piece to many different audiences.

The work is at once traditional and contemporary, recalling 18th- and 19th-century silversmithing, recognizing Scandinavian training, yet embodying the formal concerns of the 20th-century artist. The forms themselves are timeless, not new. What we find in them is a stunning exposition of seemingly basic design solutions revealed to us in surprising new ways and done so that the final piece transcends design and begins to instruct the viewer, extending our knowledge of three-dimensional form. We are treated to discovering this for ourselves, in quiet observation. Or we are simply captured by the handsome beauty of the piece.

Richard Reinhardt was trained as an art educator at the Pennsylvania Museum School of Industrial Arts, enlisted as a Marine during World War II, and returned to Philadelphia to teach jewelry with Virginia Cute Curtain at his Alma Mater. He was chosen to attend the first metalsmithing symposium sponsored by Handy & Harman, taught by Baron Erik Fleming. The following summer Reinhardt returned as a teaching assistant; these two sessions make up the bulk of his formal training. In 1948 he was included in the Handy & Harman Exhibition at the Metropolitan Museum of Art.

Reinhardt has taught in and chaired the Industrial Design Department at the Philadelphia College of Art, was appointed Assistant Dean and later became Academic Dean of the College. Recently he has returned to the classroom to teach design and metalsmithing. He is currently Chariman of the Crafts Department at PCA. ■

Richard Reinhardt, *Bracelet,* sterling, 1983



Richard Reinhardt, *Torque,* sterling, 1980. Collection: Helen Drutt

New Departures in British Jewellery
American Craft Museum I, New York City
April 15–June 5, 1983
by Whitney Boin

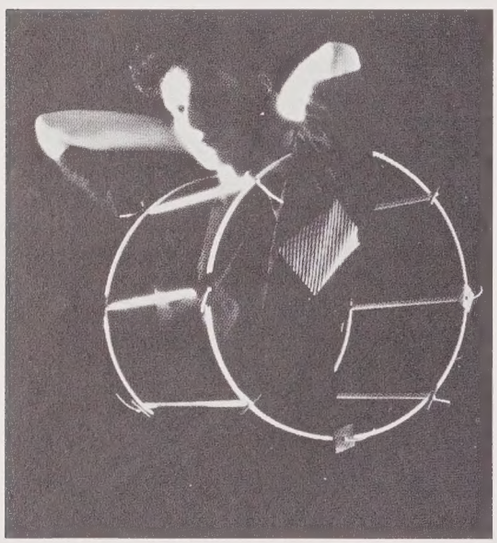
Question: what results when artists in one medium diverge and explore other avenues? Where does this expansion take them? Does one drop into a sea of ambiguity when no longer supported by the structures of a medium's traditions? Do voyageurs begin to span a void and break through into other disciplines?

"New Departures in British Jewellery," an exhibition which included the works of artists Caroline Broadhead, Pierre Degen, Susanna Heron, Julia Manheim, Eric Spiller, David Watkins, Barbara Alcock, Rowena Park and Gillian Simon gave us a forum to discuss these questions. We may not find definitive answers, but through an analysis of work in this exhibition we can see where these individual departures lead. Divergence from a familiar medium is an adventure that may or may not succeed. How does one judge the success or failure of the resulting creations? To me, new work is successful when it synthesizes inspired aspects of two or more differing media into a new hybrid.

Haute couture fashion is playful, absurd, theatrical and can be done purely for shock value. Haute couture is made to be worn, the body is the stage on which designers play out their ideas. It is within this fashion context that I found several of the works here derived their inspiration. Julia Manheim's wonderfully playful and certainly theatrical *Drum Shaped Body Cage, 1983* (50 cm in diameter), constructed of large interconnected hoops in brightly colored plastic tubing successfully reflects these fun and outrageous aspects. This piece, which intersects the body from waist to neck, derives refreshing inspiration from haute couture because it engages the body as a reference point in order to stage its playful theatrics.

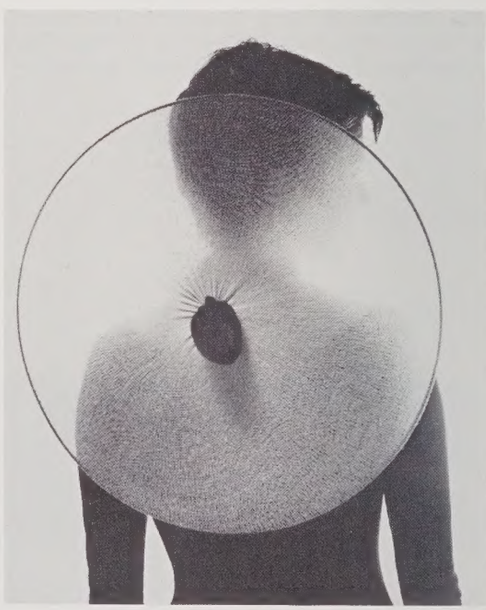
Cage ignores jewelry's traditional wearability and scale. Traditionally jewelry has been used to accent and decorate the body. It can be argued that fashion can also fulfill this function, but I think there are several major differences. The first and most obvious is placement on the body. Jewelry is generally worn in places clothing is not; for example, the ear, neck and hand. The second distinction is one of scale. Jewelry is small in comparison to the body; it is scaled to be compatible to the area on which it is worn. This compatibility is the third distinction, since jewelry works with the body and not off of it. The costume and couture aspects of *Cage* are certainly fun and inventive, but the practical, functional jewelry aspects seem to be ignored, preventing a real synthesis with haute couture. Manheim's *Ladder Neckpiece, 1982,* a flexible six foot ladderlike assembly, draped over the shoulders suggesting the skeletal remains of a simple tunic, is less successful. Although its interaction with the body is analogous to fashion, it does not incorporate any of the absurd, playful or theatrical qualities, thus seeming rather uninspired. Many of Julia Manheim's plastic assemblages in this exhibition retain fossilized evidence of their evolution from the necklace format. These dinosaurs failed to fully evolve beyond being large necklaces.

Caroline Broadhead's *Veil Neckpiece, 1983* envelops the wearer in a spiral of shimmering lavender monofilament. Rising from the neckline it interprets beautifully the mystery of the veil to create a dramatic presence. Her work is even more firmly implanted in fashion—it aspires to theatrical effect in order to make a statement. Yet, taken within the functional jewelry context it looks absurd. Therefore, *Veil* is an unsuccessful blending of these two worlds because of its lopsided leaning towards fashion. Susanna Heron's *Wearable, 1982* has a less obvious fashion influence. A simple wire circle with translucent fabric stretched within is secured in the center to a long cloth appendage. This scarf is wrapped or draped around the neck so the wire frame rests behind the head. *Wearable, 1982* is not clothing, yet the glamorous and theatrical images it evokes are most certainly drawn from fashion. Its origins in jewelry are only alluded to in its scale, delicacy, detail and placement on the body. Heron's piece is truly metamorphic in that it successfully goes beyond a simple combination of



Julia Manheim, *Drum-Shaped Body Cage,* plastic tubing and PVC squares, 1983. Photo: David Ward

Caroline Broadhead, *Veil Neckpiece,* finger woven nylon monofilament, l. 45 cm, d. 25 cm, 1983. Photo: David Ward



Susanna Heron, *Wearable,* cotton fabric stretched over wire ring, d. 18", 1982. Photo: David Ward

fashion and jewelry elements.

A few of the works in this show abandon the jewelry context entirely and become pure clothing. Caroline Broadhead's *Shirt 2M Sleeves, 1982* is an example. Composed of yellow and white fabrics with extra, extra long sleeves, Broadhead's *Shirt* is strictly wearing apparel. This blouse with ruffled sleeves is only slightly interesting as clothing and inconsequential to haute couture fashion. Heron's *White Collar, 1983 (wire hanger included)* appeared to be a quickly stitched rough pattern for a quilted decorative garment. This particularly banal object is of no consequence either to fashion, clothing or jewelry. *Wire hanger included*? The end products of these two latter explorations are alienated from the jewelry format and are solidly based in existing, well understood fashion parameters. For the most part the work in this show, which derives inspiration from the fashion medium, falls flat when judged solely within that discipline. I feel this work must incorporate essential creative insights into the new fashion field which distinguished it initially in jewelry.

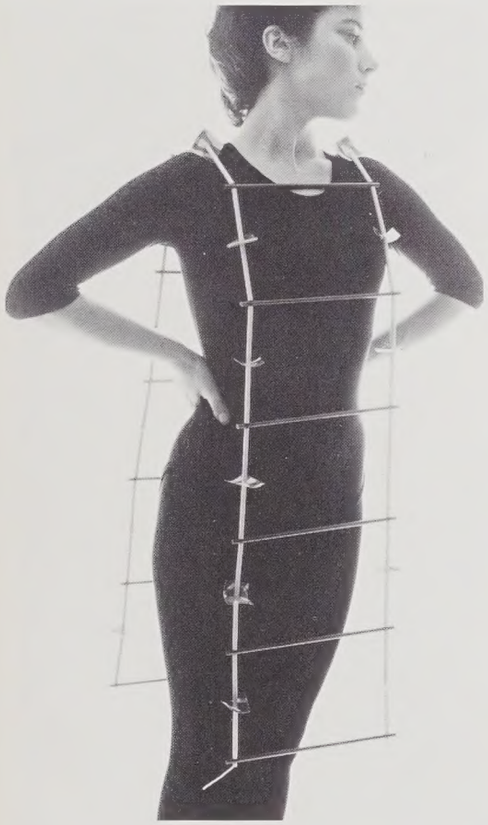
Although Pierre Degen's work can be discussed in terms of fashion's absurd and theatrical nature, I find his work to be rooted more in sculpture. Sculpture, unlike fashion, is an entity which can be contemplated without any other reference point. Unburdened of fashion's dependence on the body, it is free to express a much wider range of ideas. Fashion interprets outside influences, while sculpture can be a vehicle for commentary and evaluation. Degen, we see from photographs, fully intends these works to be carried. The large *Ladder* pieces are humorous comments on the pretentiousness of some art jewelry because of his absurd reference to wearability. Works like *Black Ladder and Balloon, 1983* consist of five foot ladderlike assemblages of primitive construction. Some painted black, others in bright primary colors, these structures support huge three-foot-diameter balloons or red wooden Xs tethered behind. His work has a separate identity which can be contemplated when not worn. That is why they are sculptural. It is for these reasons, lack of wearability and satiric comment, that these pieces fail as jewelry and enter the sculptural domain.

David Watkins's work, unlike Degen's, was clearly as comfortable on the wearer as on the wall. His work is true to jewelry's functional heritage, in terms of its compatibility with the body in scale, comfort and form. Off the body, Watkins's *Primary Orbit Neckpiece, 1983,* one of many necklaces in the show, is less jewelry than a playful interaction of two-dimensional minimalist elements. Watkins's work, although more readily accessible and easily understood, was clearly among the strongest in the show because it successfully synthesized sculpture and jewelry into a new and exciting mutation.

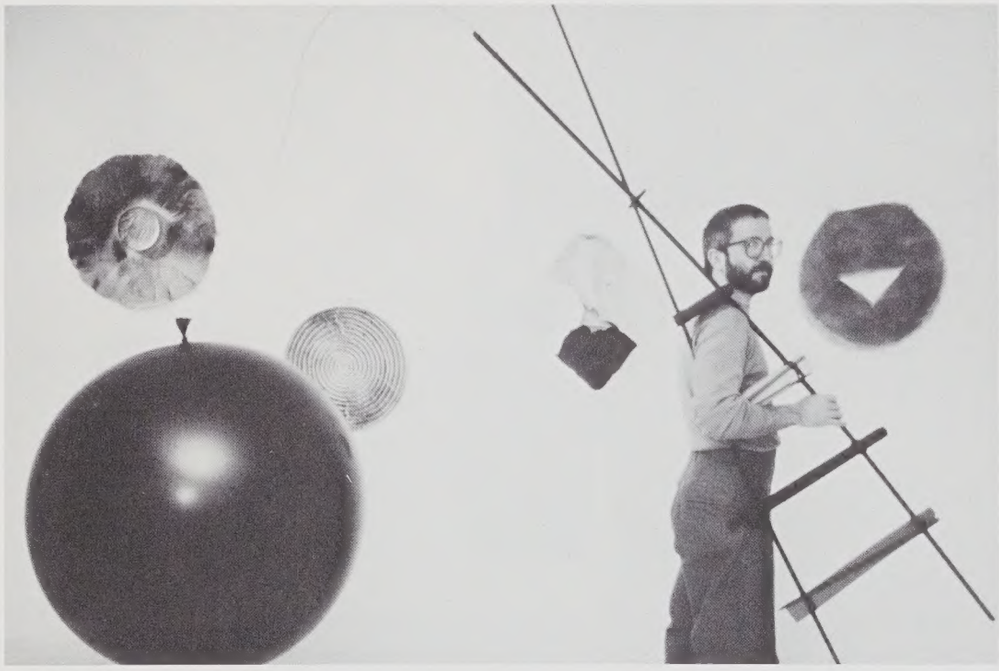
What results when artists in one medium diverge and explore other avenues? In the case of Heron's *Collar* and Broadhead's *Shirt,* the works ended up in a new neighborhood. Devoid of the insight and inspiration specific to jewelry, they faltered within the fashion world's different creative concerns and criteria. Watkins's *Necklaces* and Heron's *Wearables,* a synthesis of mediums, brought forth a new hybrid which is eminently valid within the jewelry context. In the case of Manheim's *Cage,* Degen's *Ladders* and Broadhead's *Veil,* the works were provocative performance pieces. The physical objects were subordinate to the communication of ideas in that they seemed to be an illusion serving as a vehicle to expand our notions of jewelry. ■

A catalog of this show is available from the American Craft Council Publications Department, 401 Park Avenue South, NY, NY 10016 for $5 (including postage), plus appropriate sales tax.

"New Departures in British Jewellery" will travel in Canada and the U.S. as follows: *through October 16,* Le Château Dufresne, Musée des Arts Decoratifs, Montréal, Canada; *November 16-December 18,* Brunnier Gallery and Museum, Iowa State University; *January 20-February 18, 1984,* San Diego State University Art Gallery



Julia Manheim, *Ladder,* neckpiece, plastic tubing, 1982. Photo: David Ward



Pierre Degen, *Black Ladder and Balloon,* painted wood, meteorological black rubber balloon. On the wall, left to right, are objects by Susanna Heron. Photo: Ralph Gabriner

The Jewellery Project
Crafts Council Gallery, London
April 20–June 26, 1983
by Barbara Young

When the Knapp family, Malcolm, Sue and Abigale, of New York asked David Ward and Susanna Heron of London to build for them a collection of recent jewellery work, in effect they commissioned an idea. David and Susanna were given *carte blanche,* with the single stipulation that work would not be bought from established figures on the basis of their past achievements alone. From this viewpoint David and Susanna developed a collection that gives emphasis to work which embodies ideas initiated in the past few years, 1980–1983. Since during this period experimentation has challenged the definition of jewellery, many pieces in the exhibition require other words, more descriptive ones, to suggest their *raison d'être:* appendage, wearable, sculpture, assemblage, all have been applied, and other descriptives are equally applicable.

It is not possible to address the subject of this collection *in toto* and say anything very specific. Even the catalogue's subtitle, "New Departures in British and European work 1980–83," is not entirely accurate, as the catalogue essay goes to great lengths to prove. There are merely some tendencies or strands, if you will, that allow for thematic interpretation.

To begin with, turning from the handsome catalogue to the collection itself leads to a certain amount of disappointment. Immediately one is struck by the fact that much of this work photographs magnificently, some requiring a human body to illustrate its intended placement (or possible placement), while others are essentially an extension of the language of graphics. And maybe their validity simply rests there: they were made to be photographed. As for the text, a nifty handful of prestigious associations have been drawn together to inform the viewer and nudge his thinking along desired pathways, a kind of intellectual fanfare, vastly overblown for the strength of the work involved: art movements, Futurism, Constructivism, Dada; fashion trends, the Swinging 60s, Punk, New Wave and Craft Revivalism; and finally the moralistic note, the Dutch social awareness and its puritan roots. These and many other associations are developed and illustrated.

Basically "The Jewellery Project" presents two categories of ideas: one involves straightforward decoration, the other involves costume, that is, various kinds of accessories or visual props usable under rather specific kinds of circumstances. Some have a very limited application, as mentioned, their maximum visual potential being realized through photography (works by David Watkins, Otto Künzli). For others there is the requirement of a human body which acts as the passive member, the plinth as it were, upon which the forms are draped, pinned, hooked or tied (Lam de Wolf, Pierre Degen, Susanna Heron). Some of these are referred to as wearables. However, since in most cases the wearing would greatly or entirely negate normal body

Right Lam de Wolf, *Body Piece,* cotton and wooden sticks, 1983. **Above** Sorrel Corke, *Sleeve,* vilene and wire, 500 mm long, 1982. **Opposite** Pierre Degen, *Pin Board,* wood and webbing, 650 x 470 mm, 1982. Photos: David Ward

motion, it must mean pieces of craft requiring a wearable person.

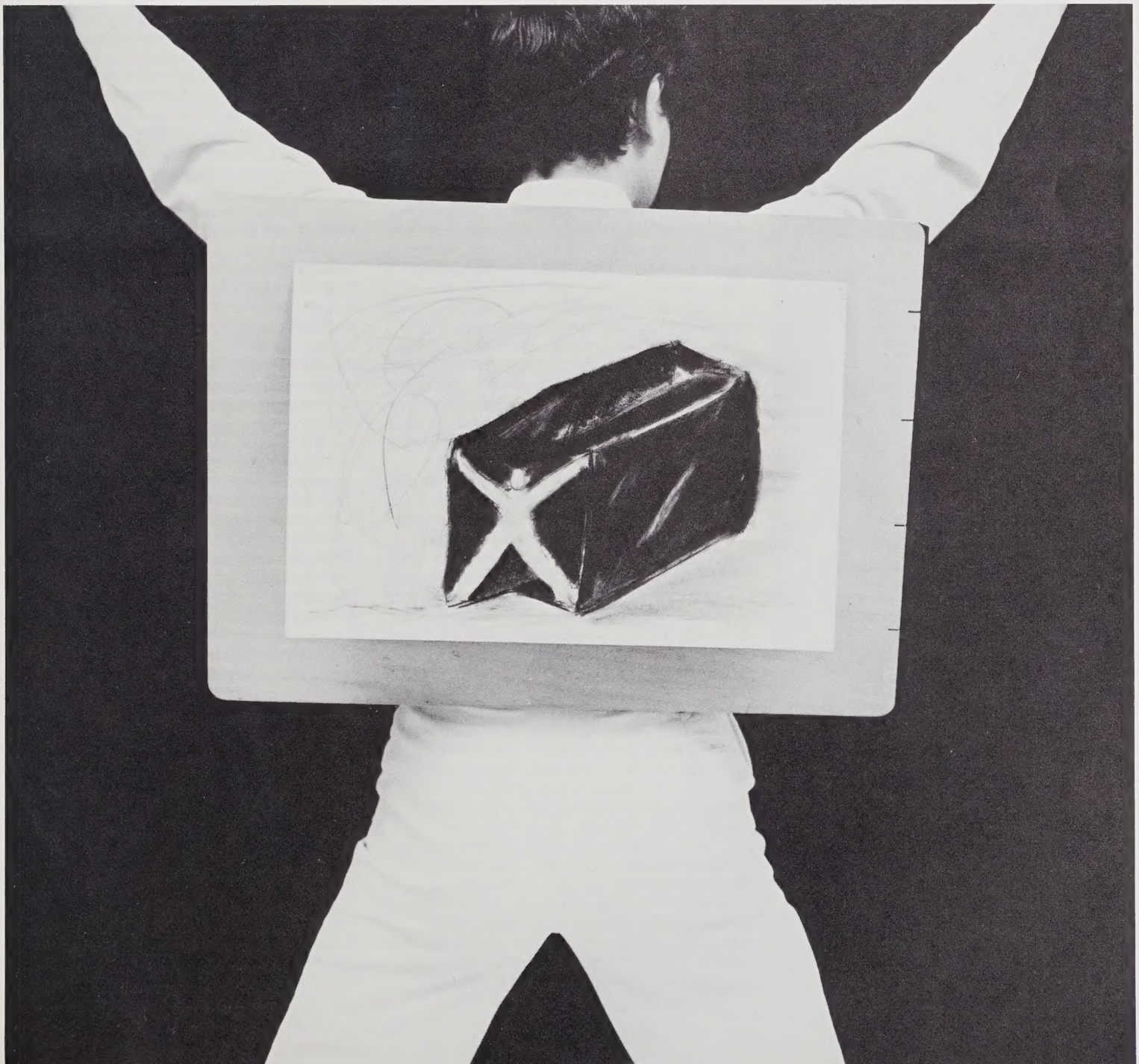
In the category of decoration, the most commonly used technique is that of fabrication using stock of various materials as they come from the factory. These are by and large acts of assembling materials, bending, folding, wrapping, twisting. Within this category the "new departures" are relative to several factors: use of what could be termed not nonprecious, but insignificant, or everyday kinds of material; placement of articles; method of attachment; and scale. Materials commonly used are wood, cotton, elastic, rubber bands, paper and many kinds of plastics. Placement could be about any place not usual and method of attachment reduced to minimal mechanisms, commonly hooks used in conjunction with a springy agent. As for scale, some pieces in this category start crossing over, begging entrance into the second category by becoming accessories dictating body movement limitations.

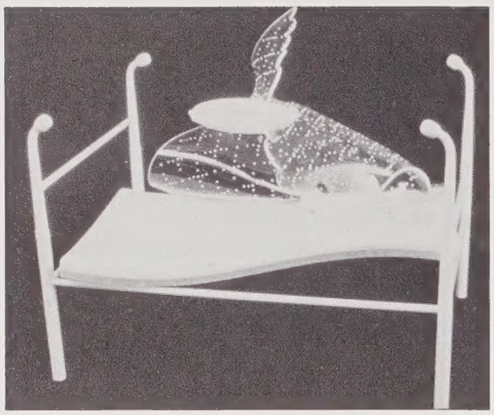
As for the costume or accessories, these forms generally are as inert and nonarticulated as the more purely decorative pieces. Of the wearables that acknowledge the wearer, top marks have to go to Carolyn Broadhead's shirt with eight-foot-long, highly crushable sleeves. Susanna Heron's hat and floppy disk neckpiece make marvelous subjects for photographic studies when modeled, but, unfortunately, have been executed in sleazy materials that look tired rather than relaxed. Of the wearables that require the presence of a human being in order to exhibit them to their full potential Lam de Wolf's forms are probably the most demanding being not only unwieldy but of fragile construction as well. While this form photographs nicely, it is not a treat to examine closely. Sorrel Corke has produced a sturdier sleeve, if such be allowed as criterion, apparently more action worthy, made of vilene and wire.

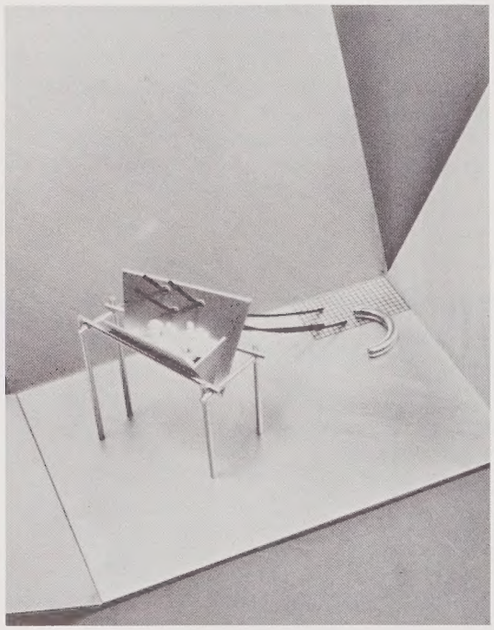
Some articles, such as Degen's pinboard, Herman Hermsen's wire headpiece (a rectangle of wire worn horizontally at ear level), and Otto Künzli's "Hand" pieces (rubber bands, steel rods and triangles of sheet steel to hold between one's fingers) are all essentially playthings, props for the stage of life, things to look at and things to play with, toys. And why not?

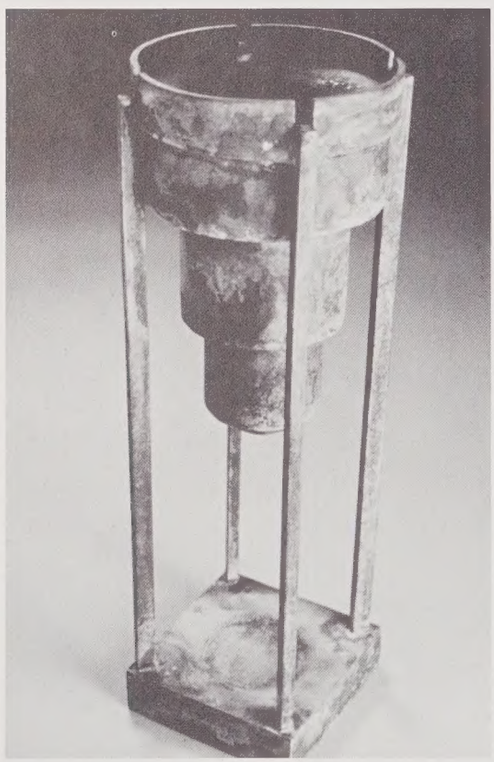
To this end the catalogue does this exhibition a disservice. It attempts to install "The Jewellery Project" in our minds as art. We are to believe these are sculptures. A genealogy has been constructed to legitimatize these "new departures." Why could they not have been produced and presented as objects for play, because that is what they are all about? They die the minute you try to take them seriously. ■

A well-documented, 48-page catalogue is available from the Crafts Council, 12 Waterloo Place, London SW1Y 4AU, England.









Top Christine Clark, *Your Bed is Your Lifesaver.* **Center** Joseph Wood, *Time and Weight,* aluminum, copper, wood, and rock. **Above** Wendy MacGaw, *Wild Princess*

Metal
Montana State University, Fine Arts Gallery, Bozeman, MT
March 29–April 15, 1983
by Ken Bova

Recent exhibitions of contemporary jewelry/metalsmithing show a growing preference for small sculpture as well as a continued attempt to present jewelry-as-art. "Metal" at the Montana State University Fine Arts Gallery was no exception. This invitational exhibition organized by Richard Helzer, Professor of Art at Montana State, represented a small body of work by 16 artists, selected from a nationwide search. In light of the diversity in the show, both in form and content, the installation was somewhat disappointing. Clustered and crowded, most of the work was placed on undersized pedestals. In fact, signs repeatedly warned gallery-goers to be careful not to bump things. Also, some works were inexplicably contained in plexiglass cases while others were displayed openly. The overall appearance was slightly erratic—a potpourri of small sculpture, but closer examination did provide a few treats. It is a credit to some of the works that they were able to project themselves despite these drawbacks.

In general, the show appeared less preoccupied with metal per se than the title indicated. Much of the work, of course, was devoted to metal exclusively, but a good number of the 42 pieces shown were mixed media with metal acting as the point of departure or foundation. There was also a refreshing lack of clever technique and material manipulation for its own sake. The show exhibited a fair amount of virtuoso craftsmanship, but more often than not it was a means to an end rather than the end itself. In this several pieces elicited strong responses.

The work of Wendy MacGaw I found to be among the strongest. Her copper and plate glass pieces rested comfortably in the space they occupied, compelling the viewer to approach them. *Wild Princess,* a kind of small watertowerlike structure whose surface is patinaed a weathered copper green, had a mysterious familiarity. It had (as did her other two pieces) an architectural feel that seemed to fit its scale. Any larger and this work would appear clumsy, smaller and it would be overlooked or easily dismissed.

In contrast to MacGaw's work, that of Beth Rizzo-Patron muscled its way into the space it occupied, pushing the viewer away. *Tales of the Arctic Winds* resembles an inverted single-edge razor blade of acrylic, pierced by an acrylic lance, resting on top of a metal arch, on either side of which is attached a small metal ladder. Under the arch hang acrylic stalactites (icicles perhaps?). The work sits heavily on its mirrored dias and strains to unify its various visual elements into a cohesive whole. Perhaps the largest piece in the show, it seemed not so much a small sculpture as an overgrown and ambiguous jewelry form, appearing weighty and confused in its intentions.

At first glance the work of Chris Ellison projected some of the same qualities as MacGaw's. Made primarily of copper, also with a green patina, his forms evoke a quiet presence that draws you to them. Unlike MacGaw's, however, I found them disappointing upon closer inspection. They have a rough, unfinished edge that is not altogether convincing; I could not decide whether they were intentionally crude or just unfinished. One piece, *Untitled,* a low slab or boxlike form with a recessed area in its center, seemed especially guilty of this.

The almost whimsical pieces by Christine Clark were visually intriguing and disturbing too. *Your Bed is Your Life Saver* consists of a small painted bed on top of which is a curved sheet of clear acrylic, like some flapping blanket or rolling wave. On this "wave" rests (or floats) a pink life ring. Images of dreaming and drowning come quickly to mind, of course, but it also evokes feelings of safety and comfort. The idea of bed is presented as a paradox, both threatening (a place of nightmares) and comforting (a place of rest and repose). Her use of colorful, painted surfaces and recognizable forms causes the work to teeter on the edge of becoming almost too pretty and narrative. Yet, it maintains its balance, albeit with a certain amount of visual tension. Perhaps it is this tension that I found both intriguing and disturbing.

The exhibit contained much less jewelry than sculptural forms, and the pin or brooch format typically dominated. On the whole, I felt the jewelry was the weakest part of the show. I am not sure if it was because of competition with larger sculptural forms or because the work was prone to rely more heavily on technical skill for its impact. Whatever the case, a few striking pieces bear mentioning.

Two brooches by Kye-Yeon Son I found particularly engaging. They were small, shallow, subtley colored squares containing a thin sheet of metal pierced by linear elements. Each suggested cloth or fabric being pierced with needles and had a strong sense of design, clean lines and an elegant, honest simplicity. Kate Wagle's jewelry also seemed to suggest fabric. Her series of pins, with striped patterns made of silver and brass, had a ribbonlike quality, and felt very much in keeping with the pillow forms in her sculptural work. Both of these artists have a strong command of their materials and present them in a pleasingly crisp, direct manner.

It was clear that "Metal" was mounted in an effort to provide exposure for relatively unknown artists working in the jewelry/metalsmithing field. In addition, it served to draw attention to the possibilities of expression within that field. Less clear was the implication of where those possibilities might lead and what that expression was. Regardless, it was a rare treat in a show of this type to confront an occasional work that addressed itself to issues of esthetics and personal content rather than mere ornament and technical bravado. ■

The Medium is Metal
Merton Gallery, Toronto, Canada
March 1983. Alice Peck Gallery, Burlington, Ontario, Canada. April, 1983
by Anne Barros

The glossy catalog for the 1983 juried show of the Metal Arts Guild of Ontario attests to the high degree of professionalism achieved by this Canadian group in the past few years. The catalog is a photographic record of every piece in the show combined with jurors' and artists' statements and will be a good historic document with which to compare future MAG exhibitions. The jurors, who obviously enjoyed their task were: Haakon Bakken, Associate Dean for the School of Visual Arts and School of Crafts Design at Sheridan College; Pamela J. Ritchie, MFA graduate of the Nova Scotia School of Art and Design; and Marie Shaw-Rimmington, curator of the gallery at the Ontario Crafts Council, a supporting organization for MAG. While commenting on the high technical quality of the work presented, the jurors admitted there were no surprises in the fairly conservative designs displayed.

To win the top award, the Steele Trophy, Jude Ortiz displayed superb craftsmanship in a brooch/pendant that was a completely reversible geometric shape in planes of yellow and white gold, silver and niobium. Four removable sapphires on the pendant allow for screw-on brooch findings. She also took an Award of Merit for a pair of earrings in married metals contrasted against green tourmalines.

The design award was given to Charles Lewton Brain for one of his three arctic pins of steel, sterling silver and 24k gold in the *doublée* technique. The pins seemed truly derived from the Canadian experience, "a summer in Baffin Island . . . weathering, metamorphosis of human and natural pattern. . . ."

The award for the Best Handcrafted Piece was won by Adam Smith with a symmetrical double-edged boot knife. The sleekness of this steel blade with its etched maker's name betrayed the subtle humor of his statement "there is a purity and sincerity to steel that is uncompromising and quite hard to deal with."

Paul Street received the Best Cast Piece Award given in honor of Mark Zimmerman, a guild member who died this past year. Yellow and pink gold ribbons reflected into each other in his superb ring for the little finger.

An Award of Merit went to enamelist Fay Rooke for *Old Symbols—New Stories,* a piece with fine silver cloisonné on raised copper. Fay's recent copper forms with pierced sections perfectly carry the richness of the enamels. A second Award of Merit went to James Evans for a minimalist brooch of niobium, sterling and nickel silver. Evans's work is restrained but exciting in its artistic approach to the brooch as a canvas-like surface to be delicately chiseled. Other pieces deserve noting, particularly Linda Fuerniss's red, white and yellow gold necklace of delicately cast leaf forms; Oksana Kit's strong neckpiece of sterling silver, steel and enamel; and Roger Chow's amusing automobile ring with moonstone headlights.

Show catalogs are available ($3 plus $1 postage) from the chairman: Diane Hanson, 6 The Green Pines, Etobicoke, Ontario M9C 2K5 Canada. ■

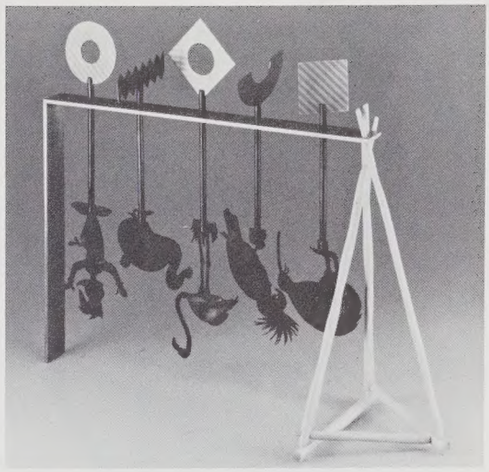
Leslie Leupp
Convergence Gallery, New York City
March 1-27, 1983
by David Tisdale

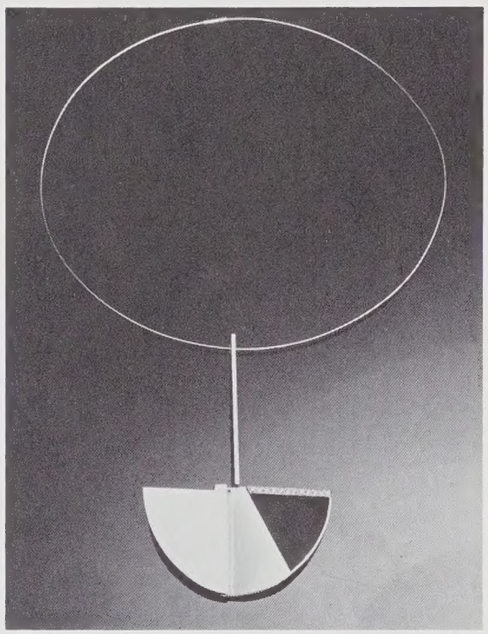
Leslie Leupp builds structures, whether in sculpture or jewelry, which combine similar patterns of forms and surfaces. The earlierst pieces in this show date from 1980, *Bracelets in a Series,* and *9 Bracelets in a Series.* In each, he has built a construction inside of which the individual steel wire bracelets are suspended parallel to one another by springs. The placement and juxtaposition make a sculptural pattern of forms. In his 1982 *Bracelet* series, and in *Birds of a Feather Revised,* 1983, Leupp creates this pattern not only in the combination of the individual pieces but on the surfaces as well. The *Bracelets* use steel wires, curved and rectilinier, for the basic forms, with a sheet or tube of colored niobium striped, plaid, dotted or drilled to form the top section. There is no outside structure for these bracelets, as there was in the earlier groups. These were designed in sets of three to create a sculptural identity.

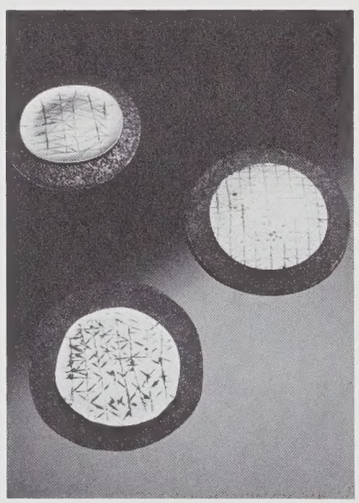
In *Birds of a Feather, Revised,* surface pattern of colored and striped niobium is visible in the flat geometric forms along the top of the piece. Hanging from a steel structure directly below them are upside-down bird silhouettes. The use of these bird and geometric silhouettes and their permanent juxtaposition creates the pattern of forms.

Another important aspect of this work is the combination of materials: steel, nickel, aluminum and niobium with wood, gold plate and found objects. Leupp uses a soft feather or a bundle of sticks with a machined handle in *Bird Brush* and *Indiana State Bird Brush,* both from 1982, and in *Birds of a Feather, Revised* a stick tripod supports one end of the geometric steel structure. In *Mere Image,* 1983, a stuffed pair of birds perches on a rod opposite their flat metal silhouette. The humor or silliness of the stuffed birds is offset by their elegant shadow facing them, framed in a rectangular window. There is an intriguing quality of softness throughout this work contrasted with rigid structure, of lightness with seriousness, of playfulness with elegance and also of volume with flatness. This creates a vitality which keeps the work from becoming tight and severe or merely humorous.

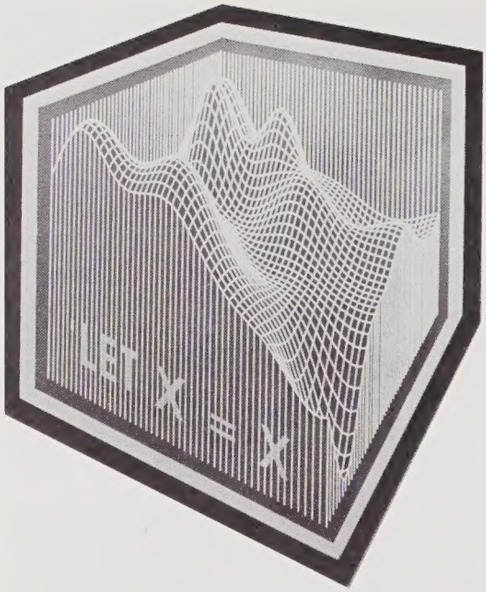
The strength of Leupp's jewelry and sculpture lies in these juxtapositions of form, pattern and materials. His ability to combine and contrast these elements successfully creates a dynamic body of work which formed a cohesive exhibition. ■

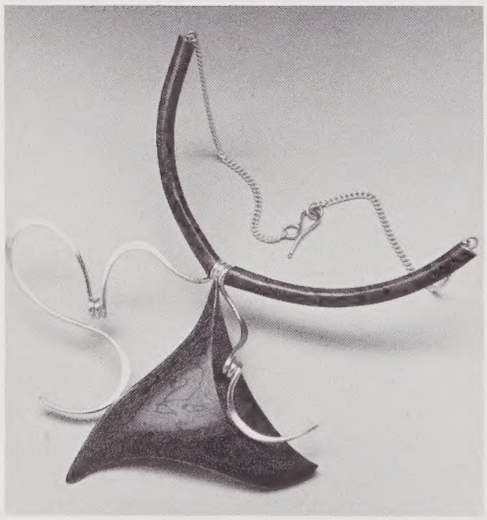


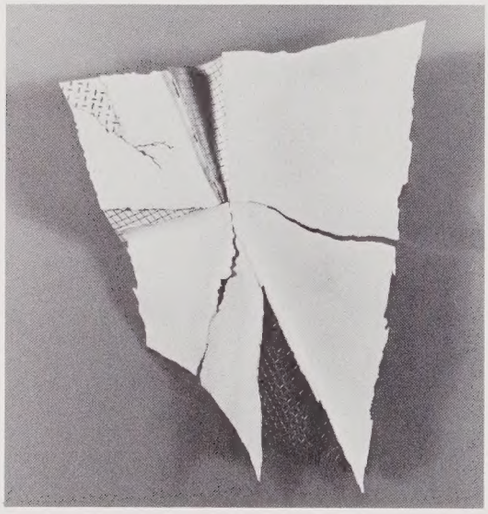




Top Leslie Leupp, *Birds of a Feather, Revised,* steel, nickel, niobium and wood, 1983. **Center** Jude Ortiz, *Brooch Pendant,* detachable brooch, 14k yellow and white gold, 10k gold, sterling, niobium, diamonds and sapphires, 60x30 mm. **Above** *Charles Lewton Brain, Arctic Pins,* sterling, 24k gold, doublée technique, 70 mm d.







Top Vernon Reed, *Let X = X*, pin, photo-anodized titanium, and acrylic, 2x2½x1", 1983. **Center** Garret De Ruiter, *Neckpiece*, sterling, mokume. **Above** Dennis French, *Piece #1*, sterling and copper

Vernon Reed
Contemporary Artisans Gallery
San Francisco, CA
March, 1983
by Alan Revere

Perusing the current collection created by futuristic jewelry designer Vernon Reed, one wonders, what spaceship did this guy step off of? The technical excellence of this dedicated and prolific craftsman, combined with bold and striking forms, stimulates the viewer to try to fit seemingly contradictory elements together.

Vernon Reed works, at the same time, in three distinct yet related directions. This exhibition displayed his latest efforts. The work is the creation of an artist who grew up barefoot on a farm in Arkansas, yet finds himself in a culture propelling itself into the technological future of outer space. Just as his life is a constant reconciliation of opposites, so is the provocative imagery of his work.

Begin with a series of beautiful and highly wearable jewelry composed of colored titanium. These pieces are fashion oriented, with wide appeal, bold and bright ornaments for those in step with *Vogue* and New Wave styles.

Then journey into a series of very individualized and powerful photoanodized and colored titanium, dramatizing the artist's obsession with human isolation in an era of high technology. There are allusions to machines of war and interstellar physics in juxtaposition with humans and other organisms, living in desertlike alienation from their surroundings. Reed has strong personal convictions about man's inhumanity toward man, and he clearly brings these beliefs onto the stage of the minidramas he creates as graphic wearables. One sees beautifully conceived and executed forms in bright colors, crisp and provocative in their two-dimensional simplicity.

A third frontier to explore is his wearables in the series of "cybernetic jewelry." These are minimonuments, suitable for wall or desk-top presentation as well as for personal adornment. Reed alone has pioneered the use of nematic liquid crystal as a design element, adding movement and the dimension of time to his already innovative work. This series combines brightly colored photoanodized titanium with the constantly changing images of moving crystal displays which he has designed.

As one tries to put the opposing images together, the natural result is a feeling of conflict: the warmth of God-given life versus the cold of man-made machine. By his own definition, Vernon Reed is an explorer, pioneering the question of humanness in an age of technology. His work is a plausible prophecy of the adornment of our descendents, inhabiting distant colonies in outer space. Vernon Reed's jewelry stands firm as a new class of personal adornment for those whose inner fantasies carry them to far-off worlds. ■

Illini Metal
Hartman Center Gallery, Bradley University
Peoria, IL
March 8–April 2, 1983
by Karl Moehl

Nationally, Bradley is best known for its competitive print show which, with its 19th manifestation this winter, has survived to be the grandfather of its ilk. Now, with his second metals show, metalsmith Jim Malenda has bid to establish a new tradition which deserves equal fame and longevity. Two seasons ago, Malenda and Bradley pioneered with the "Off the Body" show, which was challenging and often eccentric. This year the classic and what passes for the traditional were emphasized by the 10 invited artists, all from Illinois.

The participants, moving from north to south, were: Lee Peck from Sycamore, Aaron Macsai and William Fredrick from Chicago, Jane Carpenter from Washington (near Peoria), Debra Gold from Normal, Allen Mette from Urbana, Dennis French from adjacent Champaign, Garret De Ruiter from Charleston and Brent Kington and Richard Mawdsley from Carbondale. A look at the map (provided on the show poster) attests to the ubiquity of state expertise in the art.

It was a handsome, solid show. There was a purity about it, a delight manifest in refined metal surfaces for their own sake. One found little impulse toward fashion as broadcast from more publicized media. Imagination and ingenuity were there in abundance, but always disciplined. As to how accurately this reflects the state and direction of art metalsmithing in Illinois, one must trust its craftsman-curator. He has made this show an endorsement for Illinois that any other state or region is welcome to challenge.

Within this segment of artistic pluralism, it was hard to play favorites; this reviewer particularly admired Fredrick's gleaming sterling pieces. His chalice and paten, plus his scalloped bowl seem to best combine ancient and modern sensibilities.

Three artists work in sculptural relief. Mette creates jagged planar forms incorporating cloisonné geometric designs set on obsidianlike plastic. French's work is more fragile in appearance—delicate sandblasted silver wings seem torn and threaten to flutter away gracefully. Macsai's small abstractions are made of silver lines and snakelike waves of copper or gold. The setting is terraced, boxed and sometimes reticulated. Each treasured landscape or well (as he calls them) is framed with heavy borders which have been cleverly enriched with subtle textures.

Kington's *Icarus* figures were the largest in a show of small objects. These are flying masks in mild steel with streamers flowing into the void. The masks sit on a point that balances on a conical base, allowing it to dip and wheel if not actually to fly. These added movement to the exhibition, but comic liveliness was supplied by Carpenter with her set of skinny forms called *Coterie*. These were animated wands or swizzle sticks or Australian Mimi spirit people in their finery. Made of silver and nickel and decorated with multicolored acrylic plastic or vinyl bows, sequins and scales, they command their own presence. ■

Linda MacNeil: New Work
David Bernstein Gallery, Boston, MA
May 1983
by J. Fred Woell

Linda MacNeil makes decorative objects out of glass held together by ingenious metal brackets and an assortment of rivets, hex-head nuts and bolts. "I have been making art professionally for about eight years," she explains. "I began working with metals, and eventually used glass in some of my constructed objects. Now glass is the primary material in most of my pieces. Metal is used structurally and the structure is often a major design element." There's no earth-shaking message here, nor socio-political commentary. It's just you and the objects. You don't need to know anything about why she does them or "how" to appreciate what you are seeing.

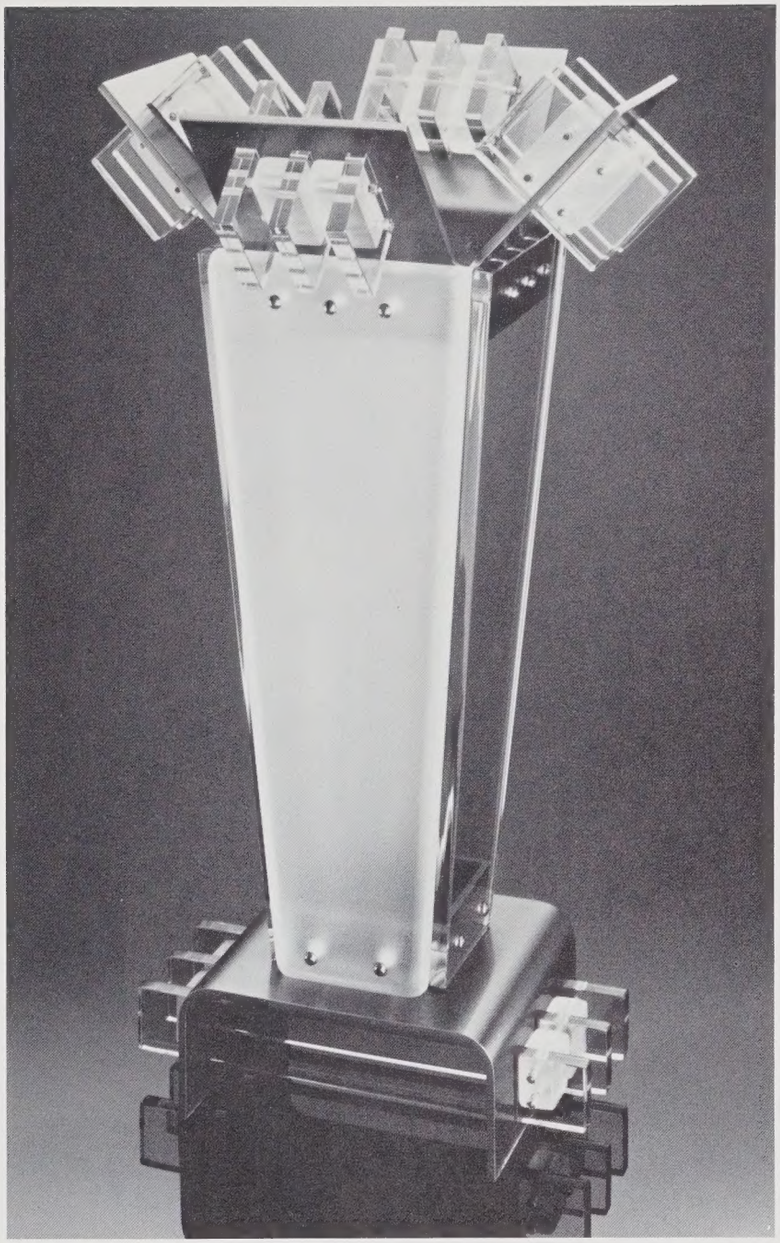
The work speaks about pattern, shape, rhythm and critical balance. These pieces "seem" to hang suspended in space, floating in some cases on air. MacNeil has a gift for understanding the qualities of her materials. She is also a dogged craftsman. The careful detailing of each aspect of this work leaves me "tired," knowing the hours that must have gone into grinding edges to specific angles with exacting tolerances and leaving the surfaces so smoothly polished that there's nothing between you and the object to detract from its design essence. I hesitate to be wildly complimentary in an age when we must cut everything and everyone to just below the size of a grasshopper, but I must say I think this work is perfectly orchestrated.

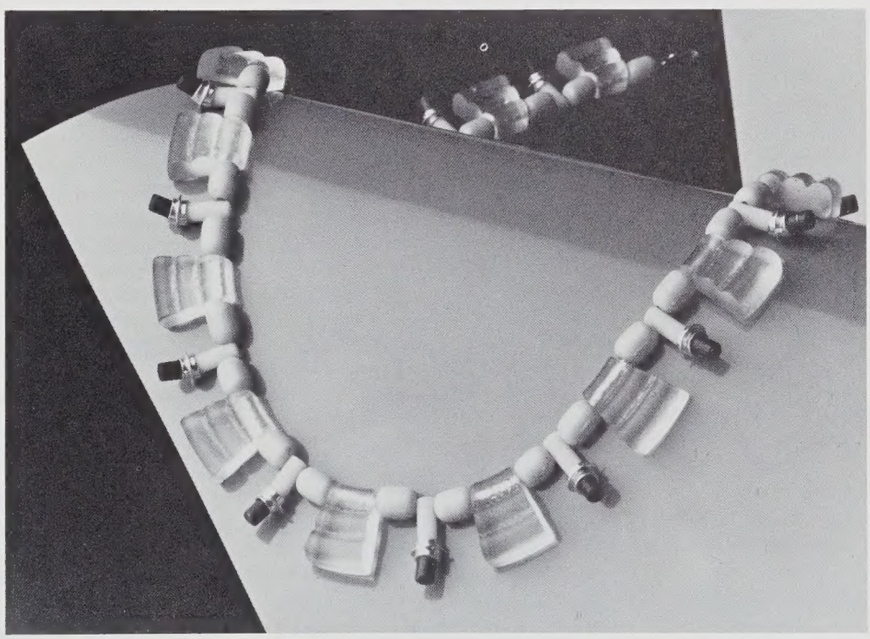
It's a wonderful experience to enter an exhibition accepting such perfection and allow yourself the opportunity of being entertained by light and color. This work glows in the light. The cast glass pieces especially seem to collect light, hold it and return it to you as if its source was within the object. They really are a chilling experience. You'd swear that if you touched them they'd be ice cold.

MacNeil uses opaque glass in several objects with equal sensitivity. The choice of colors is elegant, and the arrangement of the plates and nature of their shapes project an image of dignity and high style, the highest sense of class. I felt in the presence of some very formal environment in which cost was no object; the money was well spent and nobody minded paying. I enjoyed being close to them as I felt some of that class seemed to rub off on me.

One group of objects in which she uses transparent and translucent glass plates made effective use of optics. As images, light and color pass through the glass; they change, bend and are rerouted in fascinating ways. Sometimes this quality of glass can be allowed to get out-of-hand and become the total result. Fortunately, MacNeil controls the mesmerizing nature of this material and designs with good judgment.

All the objects in this exhibition tell us that someone who understands how to put pieces of glass together, and is fascinated with the prospects of doing so, is at work here. Her deep sense of caring is seen in every detail. I commend her for her thoroughness and sensitivity and look forward to what lies ahead. This was a wonderful show. ■

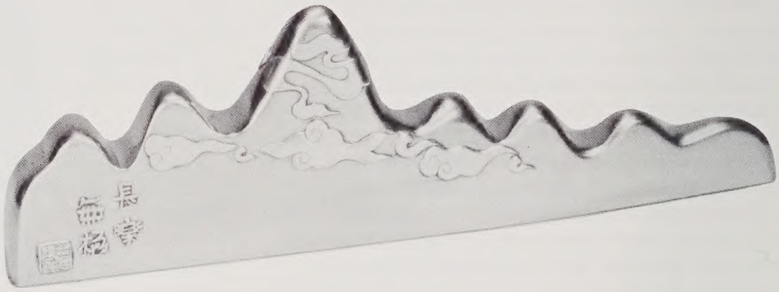




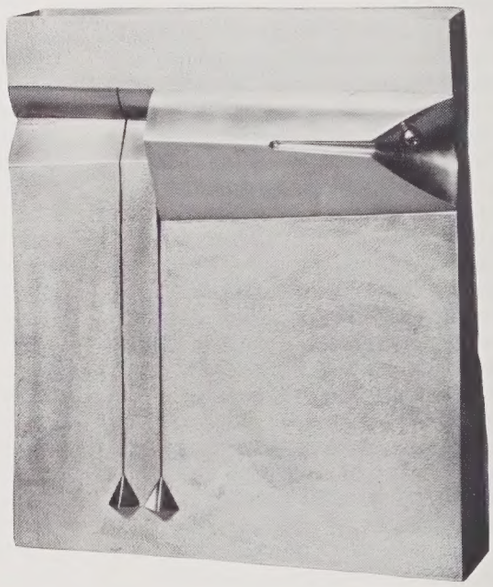
Top Linda MacNeil, *Vase,* plate glass and oxidized brass, 15 x 6 x 6", 1983. **Above** *Neckpiece,* glass, and sterling, 20", 1982

Seven Korean Metal-smiths

Choi Hyun-chil, *Utensils,* sterling silver casting, 240x40 mm and 245x45 mm



Hong Jung-sil, *Brush Rest and Paperweight,* silver, brass and silver inlay, 260x80x30 mm, 1980



Kang Chan-kyun, *Paper Trough,* nickel silver with bark texture and polished finish, 300x400x 70mm, 1978

by Komelia Hongja Okim

Five thousand years of Korean goldsmithing was interrupted from 1913 to 1953 due to the Japanese invasion and the Korean War. In looking back, goldsmithing or metalsmithing programs in Korea's colleges and universities formerly concentrated on design rather than practice. Students received a technician's help to finish the metalwork they had designed. Generally, technicians received seven to 10 years of apprenticeship, starting at the age of 12 or 14, before becoming fully trained.

Since 1968, goldsmithing programs have been included sometimes in fine art, sometimes in a separate metal department, sometimes in the crafts department and sometimes in applied art. Seven universities now have independent goldsmithing departments, and over 20 colleges and universities have goldsmithing programs as a part of the applied arts or crafts departments.

In 1973, the first Korean Craftsmen's Association was founded. At present, there are four major goldsmith groups numbering more than 100 members. More than 60 active professional goldsmiths are practicing their art with traditional and/or western technical backgrounds and flavor. Among these artists, some were educated only in Korea and others in Italy, the United States, Germany, Sweden, Austria and Japan.

For this article I have chosen seven professional artists to show the different aspects of their education, techniques, styles and beliefs. The seven are Yoo Lizzy, Kim Seung Hee, Hong Jung-sil, Sun Won Lee, Choo Yae-kyung, Choi Hyun-chil and Kang Chan-kyun.

The first two goldsmiths were selected for their traditional Korean design motifs. Choi Hyun-chil is an associate professor and Chairman of the Crafts Department at Hong-ik University. His work is characterized by perfectly balanced, symmetrical designs in functional silver and gold objects, which express modern ideas, feelings and interpretations. He uses the casting method, assimilating richly carved patterns of traditional design motifs of plants, insects and other animal forms. Hong Jung-sil also specializes in traditional techniques, such as inlay with fine silver and gold wires on iron, sterling silver or copper. She is a lecturer at Seoul Women's College and has studied under living national treasures since 1975 to master and manipulate the traditional techniques of "Oh-dong—Sang-Kam," which is similar to the Japanese mokumegane technique. Her work interprets and emphasizes an old Korean favorite theme, "Ship-Jangseng," or 10 creatures which are the symbols of eternal longevity: Sun, Moon, Mountain, Water, Crane, Turtle, Pine Tree, Bamboo, Deer and Holy Grass.

The other five artists have

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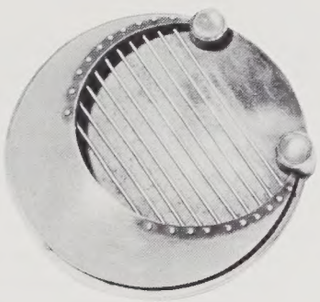
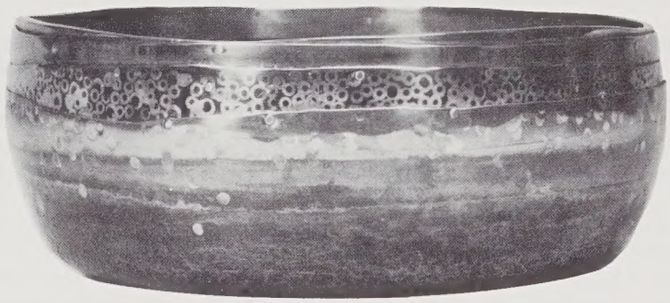
Sung Won Lee, *Decorative Pin,* colored sterling silver, 22k gold, and ivory

Choo Yae-kyung, *Brooch,* sterling silver, 75% gold, moonstones, 48x48 mm

Yoo Lizzy, *Incense Burner,* sterling silver, 18k gold, raised and chaised, 180x270x160 mm

Kim Seung Hee, *Container,* copper, nickel silver, silver, brass, chow copper (copper alloy with 10% gold), 15x15x6 cm





completed their training under the western educational system. These artists are striving to create harmony between traditional techniques and modern western influences on designs and methods. Kang Chan-kyun, an associate professor and the head of the metalsmithing department at Seoul National University, studied repoussé, engraving and marble carving at Magistero D'Arte & Institute of Marble in Italy. Emphasizing simple lines and forms in humorous but innocent childlike compositions of allegorical stories, his pieces are usually expressed with simple surface embellishments of inlays, engravings, chasings and repoussés. His main media are nickel, yellow-nickel, or "Yang-baeck," brass, sterling and colorful metal inlay in marble. Inlay works on marble are monumental in scale and detail. His concern for traditional Korean feelings can be easily seen through the subject matter of both his decorative functional and sculptural forms. They are favorite Korean subjects of creatures and plants.

Sung Won Lee studied at Nurenburger Academy of Art, West Germany, and now is an instructor at Won Kwang University. Lee creates functional, religious objects with ebony, sterling, gold and iron. The meticulous details show how her German training has influenced her work. The technical parts are essential and integral to the whole piece.

Another German-trained goldsmith is Choo Yae-kyung, who received the honor of Meister from Staateiche Zeichenakademie in Hanau, West Germany, is now a lecturer at Ehwa Women's University in Seoul. She concentrates on precise measurement and details in functional and decorative jewelry and small containers, which are usually religious objects. Her work melds both German and traditional Korean motifs and techniques in harmonious inlay work and geometrical shapes.

Last, two goldsmiths who studied in America are Yoo Lizzy and Kim Seung Hee. Yoo has two M.F.A. degrees, one from Seoul National University and the other from Tyler School of Design and is now an instructor at Seoul National University. Yoo's jewelry and holloware are usually hollow with repoussé and chasing, dye-formed and photoetched. They symbolize human figures and birds in flight with simple, rhythmical lines, basically functional volumes with sculptural forms. Her metal alloy laminations, often combined with acrylic, wood, hair, stones and ivory, are painstakingly clean, symmetrical, curvilinear and sensual. Yoo Lizzy and Kim Seung Hee jointly own and operate a craft shop, "Kum-sa-Lang," or Gold Object Room. The shop has been run successfully since 1977, showing both artists' functional pieces.

Kim Seung Hee studied at Cranbrook and Indiana University where she earned her M.F.A. Since her return from the US in 1972, she has been researching various traditional Korean techniques, such as "Oh-dong" and Korean white jade, in style as well as spirit. She is the head of the metalsmithing department of Kook Min University. Her strong determination to find traditional Korean techniques, alloys, as well as the philosophical essence of traditional design motifs induces her to take frequent walks in the mountains. This adds to her understanding of the Korean love for nature, hills, clouds, rocks, trees, birds and insects. She has been expressing these experiences in designs which incorporate nephride jade and "Oh-dong" techniques, copper-fine gold alloy (5:15) and coloring with rotten urine (ammonia and nitrogen). Kim's design deals with simple forms and functional objects. ■

Metal and Paper
Archives and the Craftsman

"It was a fine thing for me to have something lying on the bench before me made by one of the old men, and my hands doing again what his had done." The Blacksmith in Ronald Blythe's *Akenfield: Portrait of an English Village* (1969)

by R. Nicholas Olsberg

Most of us date the contemporary crafts movement from some time after the Second World War and think of its great patrons—like the Johnson family—as products of a recent phenomenon. But we all know, too, that there are always "contemporary crafts"—and that what is contemporary craft today is a traditional art tomorrow, and one that others will draw upon in their own work. For the molding of materials by hand into things that show their maker's love for the medium is man's oldest art and much his most continuous. We were forming sophisticated objects, and taking pleasure in them, long before we could write or speak on the same civilized level. And some of the forms that were first made—like those that hold water or carry grains—have passed through the ages unchanged. There have always been craftsmen and there have always been patrons with pride in the individuality of their objects and as great a pride in the traditions that inspired them. The wheels of the wagons at Akenfield "were done in Chinese red and lined-out in Venetian red, which was marvelously expensive . . . (but) the farmers were very proud of their wagons and tumbrils and would wash them down every weekend."

Until the modern era, however, the methods, names and reputations of craftsmen were bound up in local knowledge and private traditions, and their work—once it ceased to be useful or in vogue—fell upon the rusty heaps of history: "My father . . . was a first class wheelwright and was known all over Suffolk, and my grandfather and great-grandfather were the same. They all worked in this same shop and the wagons they made lie about in the farmyards." The names of their makers might soon be forgotten, but in their day the decorations and style of each would label its shop.

There is little we can do now to document the work of people whose craft and style were learned by emulation and apprenticeship, or whose traditions were passed along by birth, or whose skill was brought to perfection only with the momentary judgment of the eye and hand. Even basic techniques, like those of the Sung potters or the great steel blademakers of the last century, have been lost for good. We can no more do the same again than we could make a cheese whose culture was lost, or recast a bronze whose mold is struck. "I don't have a catalogue," explained the smith at Akenfield. "I don't like making two of anything." Except for the objects themselves, then, he left no record of his work.

Now, when the pursuit of a craft is a matter of choice rather than birth and necessity, the picture can be very different. For those at work in our own times, enough of a record can be saved to let those who come after them know—whatever the change in fashion—exactly who did what, and where; for whom, and how. The problem in keeping records, though, is always this: that by keeping too much we often save nothing. For we leave our successors so much, and in such disorder, that the temptation to discard it all or ignore it (which destroys it just as successfully) is irresistible. The basis of a decent respect for written records lies first in a sense of ruthless discretion about what to keep, and secondly in efforts to set up modest and manageable procedures for maintaining them.

What papers should be saved?
For the craftsman: catalogs; exhibition catalogs and announcements; a job record of work done under contract; a diary; and any general bookkeeping record that reflects material purchased and goods sold. In a larger workshop, add production records that show work done, when and by whom. Such records as shipping, order and sales books might well be regarded as serving only a temporary purpose, especially if there is a general ledger that accurately reflects the number and type of goods sold and the pattern of distribution. For some craftsmen, all designs and design notes may be of lasting value. But in almost all cases a selection of different examples of work in its design stages may provide a more usable guide to the artist's styles and methods. Specifications for work done on commission and photographs of objects made might also be sampled, once their legal or working life has ended. But photographs of work processes are almost invariably of lasting historical value. Clippings and other publicity received present some problems. They are only worth preserving if they say something new or critical about the work and the craftsman. Announcements in the press that merely repeat information in press releases, catalogs or flyers are of no importance. Business and personal correspondence should be divided. Of the former, that with other craftsmen about work, equipment or technique should be saved, as well as that which reflects an exhibition or commission.

For organizations and museums, the charter, annual reports, board minutes and newsletters are the most important summary of activities. A periodic copy of the membership list can also be archived, and—as with the craftsworker—central bookkeeping records are an essential piece of documentation. Exhibition files or fair records present special difficulties: Catalogs, checklists and sales records of exhibitors are vital, as are any photographic records of objects and installations; but the value of correspondence with exhibitors and about work shown or rejected varies with its subject—loan records being vital documents and most accompanying papers (shipping forms and letters, insurance, etc.) being discardable as soon as any chance of claims has ended. But in all museum records, anything that documents the whereabouts or condition of an object may have special importance, and everything that records an artist's comments on his work may, too. Again clippings and publicity files make sense in an archives only where they do more than merely repeat dates, schedules or the description of your own press package.

How should papers be kept?
The only thing the originator has to do for the records is the first step: to look through the morgues around him to find them. Once the graveyard is marked, there are innumerable choices about who and how to keep the tombstones, from arranging for deposit at a local archives or with the Archives of American Art to setting up an archives section of the library or simply buying a fireproof safe. It would be impossible to summarize methods and techniques here. But there are three vital rules to bear in mind in making decisions about what to do with your history, and, most especially, how much of it to do yourself.

First, remember that paper is cheap to make and expensive to preserve. Unless it is housed in a climatically stable and appropriate environment, it will deteriorate very quickly.

Second, recognize that you have never done anything quite like this before, and that others have. Papers are as nearly lost if they are mishandled, misfiled or misclassified as they would be in a fire. There is a wealth of literature on hand to help anyone avoid the pitfalls, and there are many sources of assistance, most of them free—the regional office of the Archives of American Art, the state historical society, major local museums, regional conservation centers and paid consultant services. The Society of American Archivists, 330 South Wells Street, Suite 810, Chicago, IL 60606 can refer you to many of these sources of aid.

Third, face the future. How long is your enterprise going to survive?

Last, and perhaps most importantly, remember that the present turns into the past at an alarming rate. No document starts its life as an historical record. Each has a cycle, serving a working purpose for a time before it becomes a reference source or a curio or simply rubbish. The trick to saving what counts is to begin treating it with respect for its importnce and an eye to its future from the moment it is made or received. Make sure, in short, that records of permanent value are made or copied on permanent paper, that they can be readily segregated from the routine papers that surround them, and that they reach a safe and accessible resting place as soon as their useful life has ended. The past begins today—and our memory of it is up to you. ■

Health Hazards Questions & Answers

by Linda Weiss-Edwards

Dear Linda,
I wanted to write to ask if you knew where I could obtain information on working during pregnancy. I've been working full-time as a goldsmith for seven years and plan to start a family very soon. I do quite a bit of soldering during jewelry repairs and custom orders. I work only with gold and sterling silver and use Handy Flux with Bi-Flourides. Six months ago I had an exhaust fan installed in the soldering area after persistent sore throats. I also wear a mask when I polish. If, along with the exhaust fan, I wore a mask to block fumes (is there one?) and gloves, would those precautions be safe? Also, should I switch to the Grifflux #1?
—Constance Wicklund Gildea

Dear Constance:
Your letter arrived at a very convenient time, as I have been investigating this particular matter myself. I am in the midst of my first pregnancy—and in the midst of a significant holloware commission—as well as the continued responsibilities involved in the jewelry design and manufacturing business that I share with my husband.

Unfortunately, there has been very little research done on the effects of our type of working environment on the fetus. The important thing to remember is: Anything that will affect a normal healthy adult, will certainly affect the unborn child—and probably in a more dramatic way.

I think your exhaust fan is a good precaution—as well as switching to Grifflux. There are two respirators that I use: American Optical Corporation Chemical Cartridge R53A, for organic vapors and metal fumes (I wear this when annealing and heating bronze or other metals that have harmful fumes) and American Optical Corporation Respirator R563, for acid, gas, fumes, mists and pesticides. I purchased these through Bullard Safety Equipment, Sacramento, CA; phone number (800) 852-7256. The salesman Roy Metcalf was very helpful. The manufacturer suggests that for these respirators to function efficiently, the filters should be replaced with new ones every eight hours of use. So, I recommend that you order replacement filters when you order the respirator.

At this time, I know of no reason to wear gloves during jewelry soldering procedures.

I also became concerned over the possible effect of noise stress (from metalsmithing processes) on the fetus. My doctors have assured me that the fetus doesn't usually respond to noise until the fifth month. However, I could feel a very active baby much earlier than that—particularly if I went back to the studio to do some raising or forging in the evening. The doctors do not believe that the noise is harmful to the fetus.

Whether pregnant, or not, I do wear ear protection. Also, my husband devised a type of wide belt for my abdomen out of heavy sound-insulating material—and the fetal activity did decrease. I have, since the 16th week ceased to do any heavy forming because the belt and my abdomen combined, became quite cumbersome to work around. But I have continued light forming—chasing, planishing or raising smaller objects in softer metals—with no dramatic changes in fetal activity.

The most dramatic response to the work came from the changes in my stamina. I was quite accustomed to *many* consecutive hours of metalsmithing with little, or no, fatigue or muscle soreness. However, I think those same hormones that make a woman's muscles relax to accommodate the growing uterus and the birth experience affected the rest of my muscles, too—I was very fatigued, and extremely sore, and could not maintain my typical work schedule. (I might mention that before the pregnancy I was a typical California health and fitness fanatic, so I was very physically fit). I would qualify this with two notions: every woman's body will react differently, and this effect of less stamina and sore muscles was much less obvious, almost nonexistent, in the second trimester.

A good resource book on the subject of noise stress is *The Fight for Quiet* by Theodore Berland, published by Prentice-Hall, Englewood Cliffs, New Jersey, 1970. Chapter 6 talks about the effects of noise on the fetus.

Another good general resource is *Women's Work, Women's Health, Myths and Realities,* by Jeanne Mager Stellman, published by Pantheon Books, NY, 1977. Chapter 3 is about "Health Hazards on the Job" and Chapter 4 deals specifically with "Work, Reproduction and Health." The whole book is really pertinent to any working woman, pregnant or not. However, it should be noted that even the six-year time span, since it was published, can make a difference in the medical knowledge available. Chapter 3 stresses paying attention to posture and blood circulation for those who have sedentary jobs. These are two very important things for someone who is a bench jeweler to keep in mind, especially a pregnant woman. Sedentary jobs can compound a pregnant woman's tendency towards back ailments, leg cramps, varicose veins and other conditions that occur from poor posture and circulation. Stellman's chapter on "Work, Reproduction and Health" has some pertinent information on the "Effects of Selected Occupational Health Hazards on Male Reproduction." This chapter makes an interesting point regarding the possible effects on fertility—both male and female—of hazards encountered in the work environment.

Please be aware that once the child is born, the studio is not a safe place for an infant who still has a great deal of neuromuscular development to complete. Infants have hypersensitive systems, and things that may not affect an adult, or may only mildly affect an adult, can have a dramatic effect on an infant or young child.

It has recently been brought to my attention that some readers are not aware that in addition to this column I have also had a complete technical paper published on health hazards in our metalworking. I recommend that you obtain a copy of this and familiarize yourself with all the possible ways to maintain your career within a healthy working environment. This paper and others are included in *Metalsmith Papers* of the Society of North American Goldsmiths, available from SNAG, 2849 St. Ann Drive, Green Bay, WI 54301 for $15, including postage.

Special Note It has recently been mentioned in the *Arts Hazards News* that waxes dissolved during casting burnout can emit formaldehyde fumes. So be sure you do not work where you would be exposed to fumes from a burnout kiln. ■

Submit questions for this column (typewritten, double-spaced) to Linda Weiss-Edwards, P.O. Box 1032, Sausalito, CA 94966.

The author of this column assumes no liability for the processes, procedures and precautions recommended herein.

Opinion
The Psychology of Slowness

by Kenneth F. Bates

For many years the name of Kenneth F. Bates has graced the covers of books on design, enameling and a sensitive novel entitled Salome's Heritage. *To the enamelist, this powerhouse of a person has created an aurora: a vision of a giant in his ivory tower at the Cleveland Art Institute, holding the mace of authority and orating forth his doctrine.*

When I met Kenneth Bates in Washington, D.C., not quite a year ago, I met a man small in stature with a debonair air, a sense of humor to be reckoned with and a powerful philosophy that he calls "chicken coop."

It is my privilege to have become acquainted with this Gentleman from New England, who claims to be just a simple country boy, who feels just at home in his wonderful garden where perfumes abound, as in his studio where his artistic endeavors have been developed and brought to fruition. When I asked Kenneth if I could interview him for Metalsmith, *he exclaimed in his delightful gravely voice "I don't want an article where it is written up as she asked and he said, I have more of offer."*

There seems no better way to know Kenneth F. Bates, than to read his words spoken as the keynote address at the 1983 Society of North American Goldsmiths Conference at Asilomar, California. To understand him better it would take a slow guided tour through his garden (or a walk along the beach) to savor his personable personality. It is indeed an honor to introduce Kenneth F. Bates, artist extraordinaire, and his Psychology of Slowness.
—Glenice L. Matthews

My name should be followed by a long list of degrees and doctorates to justify my choosing the title "The Psychology of Slowness." However, my degrees are quite elementary (B.S. in education), and my premise is simple. I shall try to clarify an idea which has been running through my mind for some time. Although that is not to say that I have, or ever will, practice what I preach. I have found that most people who preach sermons and scold other people are usually admonishing themselves.

I have had time to think about this as I have recently undergone a coronary bypass operation which offered long hours of leisure in the hospital and even longer hours while convalescing. There were periods when one could do little else but contemplate the meaning of a long, and often perplexing, life. There is nothing like a hospital experience to make one realize the value of "slowing down." One's whole tempo changes.

Strange how my life span of nearly 80 years became unified into one simple block of time—my time, my dreams and fantasies, and my plans. I was able to see the whole picture clearly from beginning to end. The successes were as visible as the misfortunes. Solutions to where I had gone wrong were revealed to me now that it was too late to rectify my mistakes. Must all of you brilliant and talented young people live to be four-score years before you find a meaningful direction to your life, or before you discover who you really are? I hope not.

I ask, why are you doing what you now find yourselves doing? How does it happen that you are so fortunate as to have chosen a career in art, regardless of its monetary returns? Why didn't you choose to be a carpenter, a plumber or a house painter? They also constitute craftsmen and receive much higher wages per hour. But how could anything be more valued than to find oneself in control of the use of one's own time? Are you doing this for yourself, or are you hoping that perhaps others will benefit by what you do? Are you an optimist? I have been told that an optimist believes that we live in the best of all possible worlds, and that a pessimist fears this may be true.

If you, as a craftsman do not exchange your services with, let's say, an auto mechanic, a farmer or a truck driver, what good are you to our common welfare? If you merely create for the benefit of other artists who make an effort to understand you, how then is the world illuminated? Why do artists, writers and all other creative people gather in such curious defensive groups feeding on one another's approval, growing self-satisfied, reveling in each other's accomplishments, exhibiting techniques and results which no layman understands? Why do we find ourselves here in Asilomar blowing our own trumpets amongst our fellow-craftsmen instead of trying to make the auto mechanic, the farmer or the truck driver appreciate more of the joys which we experience? Shouldn't we explain how pleasant it is to look forward to a full day of creative work in the studio, all heated, lighted, fully equipped and, if we are lucky, mortgage free?

Some weeks ago I was disturbed by a lady's remark, who said, "Why don't you give more of what you have? Why don't you share with others how to do what you do?" I felt that that was an unfair and unwarranted accusation. After all, I have taught for 43 years at the Art Institute of Cleveland, giving, if I may say so, every drop of blood in this weary old frame. I feel that the publication of my books is also a form of sharing. It may be that the reason artists do not share more is because that which they have to give is not always sought by the layman who rather envies the look of satisfaction he sees in the artist's eye, but refuses to make the sacrifice it demands to acquire that look.

When Picasso was asked "What is art?" by a visitor to his studio, he answered, "Whatever the source of the emotion that drives me to create, I want to give it a form that has some connection with the visible world, even if it is only to wage war on that world. Otherwise," he continued, "a painting is just an old grab bag for everyone to reach into and pull out what he himself has put in. Everything I do," he said at 76, "is only one step on a long road. Therefore my works must be seen in relation to one another, keeping in mind what I have already done and what I will do." We creative artist-craftsmen find this statement of Picasso's entirely comprehensible, but I am not too sure the farmer or the auto mechanic would know, or even care to know, what he was talking about.

My lectures have been given to both receptive art groups and to hard-boiled businessmen whose usual question has been, "How many hours did it take you to make that, Mr. Bates, and how much do you charge per hour?" I won't honor that question by answering it here. Most of you have formulated your own answers, anyway, and probably have never thought of hourly wages.

At one of my lectures I proffered an opportunity for the audience to ask questions (a most unwise gesture, one which should be avoided at all cost). At this lecture a businessman in the back row arose and asked the same question of me which was asked of Picasso. "What is art anyway?" he said in a most sarcastic tone of voice. Fortunately my training at Massachusetts School of Art, academic as it was, gave me the answer I needed. I merely said, "Sir, art concerns that quality of the mental process known as imagination, without which life is not worth living." My businessman sat down with no hesitation and asked no further questions.

But how is that mental process called "getting an idea" best fostered and replenished. Of course, if I, as a producing artist, knew the correct answer to that question, I would have no trouble turning on or off that which is called "the creative urge." Unhappily, how and when a good idea comes to an artist is hardly predictable. Often the best idea comes, I have found, at the moment one has finished an ambitious piece. It is said in the best pedagogical circles that if, after one classroom problem has been finished, it does not supply an idea for another project, the lesson has been a failure.

I once saw below a picture of Benvenuto Cellini's 16th-century gold and enamel shell-shaped cup which rests on a turtle's back, now in the Metropolitan Museum of Art in New York City, a statement which said, "Genius is an infinite capacity for taking pains," but more pertinently it said, "The ignition of genius is an idea." An idea is what everyone in this audience is most concerned about, it is what every creative artist secretly prays for—an idea which will sell, or an idea which will bring acclaim, or an idea which will make him feel satisfied inside, even though it is an idea which may never be appreciated by anyone other than himself. Forgive me for rambling on so with my "chicken coop" philosophy. I promise you that now, I will get to the real meaning of my talk.

Many years ago I observed a personality device in one of my contemporaries. He, like most artists, had a few failures along life's path, but also an abundance of successes. His trick, however, was to relate to all who would listen, the story of his constant successes in life and never his failures. He gave the impression that he won in every contest and always came out "smelling like roses," even though I knew such was not the case. By "shouting from the rooftop" how infallible he was, and never mentioning anything negative about himself, he found it easy to convince the public of his superiority in all things.

This device, I will admit, is not unique. It is practiced every day by our politicians and is known as "creating an image." But sometimes such an image may prove to be false, and not the whole picture of the artist's life. Woe unto him when the true facts are revealed. Woe unto him when the negative is known.

You now find yourselves thinking, there's only one thing he will do. He will ramble on and on about his career, his childhood, how he became a craftsman and eventually he'll show examples of his work. You decide to doze off. Hoping to be awakened by the clapping of hands at the end of the lecture.

Bear with me. I shall not dwell on any of these things. It would be boring, I think for me to go on revealing only my successes and never anything that may have gone wrong. Somehow, I feel that my friend who always made such an effort to create a positive image left out much of life's more fascinating episodes. I thought it might be more interesting, and, in fact, more meaningful and helpful to you, if I would be less concerned about establishing a positive image, and relate to you some of the unfortunate circumstances which have befallen me. I must admit that my career has not always been a bed of roses, and I wager some of the things which have happened to me may also have been experienced by many of you, whether you wish to acknowledge them publicly or not.

One of the most common disappointments to all of us, of course, is that of putting forth what we honestly thought was our best work and having it rejected by some juror whose opinion we almost respected. In my own case, sometimes that juror could be one of my former students. This actually happened to me. In fact, the student juror was one whom I had graded a low "B." I never knew whether it was revenge or his sincere judgment. I do remember that the piece he rejected was sold to the museum curator as I was removing it from the show.

But to return to the experience of having what we may have thought was our best endeavor kicked out of an exhibition, I have convinced myself that this can be a "blessing in disguise." The jury may have wished to steer my thinking in the direction of the pieces they accepted. Often this is a very helpful rationale. It, at least, gives us the pleasure of exploring a new technique or a new dimension. This attitude is more healthy than that of "falling in love with every piece one turns out." It often leads to a whole new train of thought which otherwise might have been by-passed. Also, when such an occasion arises we might well consider the theory of "slowness." Did we take enough time to really think about the piece, or was it another instance of where we pushed it through to meet the deadline of the show?

Another experience which was most upsetting to me, and one which cut to the bone, concerns only those who have tried their hand at writing books. I don't really know why artists struggle to write books. It is not a natural thing for a craftsman to do. His training guarantees that he will make better jewelry than books. It was my daughter, an English Literature professor, who informed me that, like other artists, I wrote books about my own work purely for glory and self aggrandizement. I thought she was too harsh, and I never believed her, but she may have been right. In fact, with my first book on enameling, I think I sincerely tried to impart information to others whom I thought wanted that information. It may be why that book has done well for over 30 years and is still selling in many countries.

After writing a book on basic design, I had the feeling that I should write another book about enameling, one which would carry the craft much further, treating each technique in depth.

Three years were spent on research, photography, writing and composing the book. It was difficult to come up with a new book on enameling, one which would not repeat what had already been written, and one with entirely new photographs. Finally, the book with its full-color plates, organized chapters, prepared index, tables and colorful jacket was presented to me by the publishers. The feeling of accomplishment when an artist finishes his book is somehow akin to the intense feeling he gets when he puts the final polish on a piece of silver or takes his enamel from the kiln for the last time. Perhaps he is trying to convince himself of talents he may not have but secretly covets.

In any case, my point in telling you about the satisfaction one has in publishing a book is that it can be short-lived and that I wish to make this story dramatic and create as many tears as possible. After autograph parties, television appearances, newspaper articles and well-wishes from friends, the book was launched. Five years went by. Royalty checks seemed like unexpected manna from heaven, and then it happened! One day the telephone rang, "Hello, this is your publisher. We just want to inform you that your second book on enameling is now out of print." "That's not possible, it's the best book on enameling ever written," I thought.

My enamels have been broken, stolen and lost. Such news seldom upsets me. I can replace an enamel. But to have my book go out of print, it was like three years of my life going down the drain. This kind of experience really cuts deep. It is most depressing for an artist whose writing is as much a creative act as his craftwork. I couldn't be more crushed if a dinner guest turned up his nose at one of my gourmet creations.

Fortunately, this story has a happy ending. After two years, and after many sales were lost, Funk and Wagnalls decided to buy the manuscript and publish the book in paperback. My book would exist again (hurray). My hard work was not entirely in vain, although it had caused some tense and heart-rending hours.

Another very sad experience nearly broke my spirit. Several years ago a job was offered to me which seemed so ideal and so natural that I accepted it without hesitation. Since boyhood I have grown and been acquainted with nearly every garden flower and plant. Besides this, my aunt, who was a botanist, had taught me about wild flowers, ferns, trees and insects, and their Latin nomenclature. I was delighted when World Publishing company asked me to illustrate a garden encyclopedia. This entailed making over 1500 black-and-white detailed botanical drawings. These drawings had to show

every petal, veination and subdivision of leaf, as well as root system, exactly as it appeared in nature.

From memory, and from research, the drawings for the garden encyclopedia were finished in less than six months. The most flattering part of the commission to me, regardless of its being well paid, was the finished book jacket which, besides the title stated "over 1500 illustrations by Kenneth F. Bates."

The reason I mention this commission is that I believe there is little in this life which is definitive, and that instead of rushing ahead too emotionally, we would do better to slow down. I am afraid we often see the finished product and the possible glory that goes with it too soon, as I may have envisioned with the encyclopedia illustrations.

The tragedy of this story is that before the encyclopedia had gone to press, World Publishing sold out to Time Life, whose editors decided to discard my drawings and do the whole publication in full color kodachrome with no black-and-white illustrations. This was an episode of my life that hurt my pride beyond description. What good was the money received from the 1583 illustrations? Like any good New Englander, I did not spend the money, but invested for my children and grandchildren. I am sure, as I think about this, that any monetary reward took second place to what recognition I might have received from illustrating such an important publication. The word is "glory." It is a vulgar word, but it lingers in many artists' subconscious. Artists thrive on "recognition," and when fate allows, "glory."

So now, having related these episodes which were unhappy ones, I hope I have at least held your attention more than if I had rambled on about the honors, prizes and accolades I have received in a long life. How boring that would have become, how superficial when we are all aware that life is not like that. We have no guarantee that we will be immune from tragedies, failures and the vicissitudes of life. But, by the same token, we have no guarantee that we will *not* be immune. We have no right to expect, or to pray for immunity. What we must seek is strength of character and peace of mind and, perhaps, slowness and contemplation when tragedy does strike.

What then is definitive? I think I am speaking for the majority of artist-craftsmen here when I say that the ego (the inner conviction) is that on which we are most likely to rely. There are other things which to me seem definitive, such as the fecundity of the earth, and the comraderie of fellow artists, but none is so important as our absolute sureness about what we are able to accomplish. Not that inspiration is easy to come by, nor that it flows in a steady stream, but we are somehow convinced it *is* there, that with concentration, and perhaps some slowness, we will be able to create that which begs to be ejected from within us. I believe that all of creativity is a matter of finding a means of expulsion for the accumulation of ideas which have been forming within our souls.

What may seem of little consequence to some of us is of commensurable importance to others. Allow me to mention an observation which to me had considerable significance and is pertinent to my premise of "slowness." It occurred in my small solarium which is attached to my house. In this fluorescent-lighted greenhouse during the winter months I raise, besides other plants, a flower known as gloxinia. Gloxinias have a rich velvety texture, deep coloring and, most important, rapid growth. One can almost see the plant grow overnight, as opposed to orchids which grow slowly. As I inspected a prize plant I was happy to see that several buds had appeared. My thoughts were immediately projected to the time when the buds would burst forth in all their amazing glory. What has this to do with the problem of slowness or tempo? It is a tangible example of how worthless one's impatience becomes. There is nothing that can make the buds on my gloxinia develop into full blooms until the allotted time, about two weeks. I must wait, I have no power over such things. In childish rationalization I decided that I was more excited about the expectation of the buds than the realization of the blooms. But I am so impatient.

Time becomes a factor in everything we hope to accomplish. Perhaps the farmer, or the one who works with growing things, is aware of this principle better than most people. He cannot force his sapling apple trees to bear fruit until they have had at least four years, if not six, to mature. He is certainly concerned with slowness. He realizes that the element of time must figure in planning the profits from his business.

The meaning of tempo, the seasons, the fact that all things in nature demand their allotted time—in the case of the seedling, the time from the splitting of the cotyledon to the maturity of the plant, all of this is what I have dubbed "chicken-coop philosophy." It is easy to see that I was brought up in the country and am a "child of the soil." Perhaps such bucolic wanderings are both foreign and meaningless to you with big-city backgrounds, but I contend that rather important truths can be formulated from the simple phenomena of nature.

When I first arrived in Cleveland, fresh from a small town in New England, I could not understand why everyone was in such a hurry. Where in hell were they all going? Hurrying to get to work in the morning, hurrying to get home at night, hurrying to get through every day. However, it was not long before I fell into the same pattern. Hurrying is a disease. There was impatience all around me. I would ask when a commission was due or a manuscript must be finished. The answer, especially if it came from New York City was always, "yesterday." This is supposed to be amusing, but after years of misuse of the expression, it ceases to be funny and merely reflects an attitude of our times. To me, this is very irritating.

In America things must happen in a hurry. People want to lose weight in a few easy sessions, they want to be successful in business overnight, they want to become popular artists or good craftsmen after four years in art school. Perhaps our troubles stem from our denial of slowness. We seem to abhor quiet and silence. They are disallowed—they are unpopular in our particular social structure. But slowness does have its virtues. We are more apt to find satisfaction in our search for the ultimate in design while experiencing slowness than when on a speeded-up course of production.

The great French philosopher, Blaise Pascal wrote in the 17th century, "I have often said that all the troubles of man come from his not knowing how to sit still, or how to combat obstacles in order to get repose, and when he gets it, the repose is intolerable. He either thinks of the troubles he has, or the ones he is going to get, and even if he feels entirely safe, boredom sets in and fills the mind with its venom." Many of us have never experienced such an abundance of slowness and silence that the "venom of ennui" has been a threat.

While writing this it occurred to me that my life has been speeding by at a too-rapid pace. I know I have been hurrying. I have pushed when I should have relaxed. You are all pushing when you should take it slower. I would have benefitted more if I had concentrated on the conception of the work rather than finishing it to meet a deadline. Why must our lives be so regulated by deadlines: deadlines for exhibitions, deadlines for the publisher and deadlines for living?

I challenge anyone of you to take some time out of every day to look and listen without any ulterior motive whatsoever. Forget that you are craftsmen, designers or producing artists—look and listen more the way you did when you were five years old. In First Corinthians we read: "When I was a child I thought as a child—I understood as a child." Remember, you just looked because everything seemed to interest you, and all the world seemed exciting. Then you accepted nature without the constant pressure of ambition, professional obligations and competition. You accepted as a child those sights and sounds which were the very source of your power and profession today.

We find ourselves having chosen the life of a craftsman. Life is a journey (never forget that) with its vicissitudes, its rewards and its disappointments, but let us always remember that the everlasting journey is happier than the impossible arrival could ever be. ■

Issues

Professionalism for the Artist-Designer

by Ettagale Lauré

Craft and commerce came together with spirit and style at the 1983 Society of North American Goldsmiths' conference held at Asilomar Conference Center, Pacific Grove, California, from June 8–12. The conference, headed by Doug Steakley, with that special combination of laid-back California style and solid business sense, proved that there is a way to achieve professionalism for the artist-designer.

As a member of the commerce side of the equation, I found myself drawn into discussions with fellow attendees from breakfast time and on, through the entire day of meetings, lectures, slide shows, panel discussions, meals and after-hours hoopla. The beauty of the setting, with the California cypresses twisted into defiant shapes by the prevailing on-shore wind, the sudden appearance of a deer walking by on the grounds, combined with just the right amount of isolation to keep everyone in the same working and living milieu. The energy kept flowing seamlessly through the days. It didn't feel like work but it certainly was a learning experience.

Solid workshop sessions on technical subjects were offered, interspersed with practical lectures, and an evening of jewelry viewing at a special show of SNAG/Johnson Matthey award-winning platinum pieces held at the Monterey Peninsula Museum of Art.

Mort Abelson, manager of the Jewelers of America show, a trade event at which some 1100 jewelry firms exhibit, spoke on the place of the young designer in the changing commercial environment. His pitch was aimed at designers whose work was suitable for the New Designer Room, a special area of the JA Fall show, held in New York City at end of July/beginning of August.

Abelson metaphorically rolled up his sleeves and told it straight. "You can make 125 presentations during a five-day trade show, at a cost of $40–75 a call. On the road, the same number of calls would cost $180 each and would take two-and-a-half months." That assumes a few things of course: first, that 125 people approach your exhibit space and stay long enough to learn about your jewelry; second, that you have sufficient production to meet the orders that come your way.

Abelson actively encourages young designers to show him their work because he is keen to spark the JA show with interesting jewelry. "I was bored to death with the jewelry lines I saw. Most people do the same thing; they buy from the same casters, they finish their lines the same way." The boredom of seeing the same thing led him to institute the New Designer Room, where 12 newcomers rent booth space, at a reduced rate. Of the 71 firms that have been in the New Designer Room since 1977, 38 have remained in the show.

The panel on which I participated, along with Alan Revere and Helen Drutt, with Steakley moderating, was the theme session for the conference: Professionalism for the Artist-Designer. We three were chosen for our diverse but solid connections with the commercial end of things. Helen Drutt runs a gallery in Philadelphia; Alan Revere is a working goldsmith, manufacturer and head of the Revere Academy in San Francisco, and I am New York Editor of *Jewelers' Circular-Keystone*, a magazine written for the retail jeweler.

As discussed at the panel, and particularly from my perspective, the artist-designer not only has a place in commerce, but provides the spark that is so often missing in the retail jewelry store. Since I began covering the Rhinebeck Craft Fair some six years ago, I have made it my mission to bring well-designed, well-made jewelry to the attention of our readers. These designers, and this kind of jewelry, now offers retailers the chance to bring back the customers they have lost to their competition, those stores that sell purely by weight and price.

This is the kind of jewelry retailers need to make them look different from the store down the street. And it is jewelry that consumers respond to with glee, *once they see it.* The stumbling block, for the most part, remains the retailer. He is cautious, he is conservative and he is light years behind his customers. Their taste has evolved, and they're ready to buy. But they can't buy what they don't see.

Getting into the Market

Retailers who want to reach out to artist-designers don't really know how to go about finding you. Some contacts are made at regional craft fairs; universities with jewelry programs could also be the meeting place. But there's nothing wrong with calling up a shopowner and asking if he would like to see a line of well-made jewelry.

The atmosphere of the gallery approach limits the amount of jewelry sold there. I feel strongly that jewelry sells best in the environment of the jewelry store. While your work certainly is an art form, it is bought to be worn. The customer looking for something to wear goes to the jewelry store to find it.

If you seek collectors, such as those Helen Drutt considered in her talk, you may find them in galleries. But there are thousands of jewelry buyers who collect a designer's work, buying several pieces over a period of years. They enjoy knowing the person who made their jewelry and they are very loyal customers indeed. It's one thing to hang a piece of art on a wall, it's quite another to hang it on yourself. Don't cut yourself off from these art lovers by limiting the places where you show and sell.

Retailers need to be educated, gently. They were brought up to consider pennyweights and karats; they have to learn to appreciate art. Yours is a great and ancient tradition; it is a tradition that many retailers have forgotten by keeping their eyes glued to the bottom line. Help them lift their heads up and see the light.

There should be no confusion between sculpture and jewelry. I do not consider jewelry to be sculpture to wear; sculpture really doesn't wear all that well and I think this concept has done more harm to the cause of your work than any other single element. I have no objection to a necklace being hung on the wall, if the buyer so chooses, but that is not its primary purpose. Jewelry must relate to the person wearing it; it does not exist in isolation.

Finally, production should not be a dirty word. There is nothing wrong in making a wonderful design more than once. If it is handmade, it won't be exactly the same anyway. Sign your work; date it; put a copyright notice in it or on the back. If you're concerned about having your designs knocked off, beat the thieves at their own game by bringing out lower-priced versions of your own work. Reduce the weight of the gold, use a different type of stone to lower to cost. Bringing good design to more people helps upgrade taste and creates even more of a market for well-designed, thoughtful and well-made jewelry. ■

Metalsmith
Reader Survey Results

The responses to our reader survey, which appeared in the spring/83 issue of *Metalsmith,* represented a cross section of states, with New York and California leading, and an impressive number from Florida, Oregon, Pennsylvania, Illinois, New Mexico and Wisconsin. A few surveys came back from Canada and one from Alaska.

Reaction to features and departments in the magazine indicated that the most popular articles were the "Master Metalsmith series and the "Metalsmith Guides." Close after these were articles on esthetics, technical articles, profiles and "Masterpiece in Metal." Of the columns, "Business of Jewelry" was the most popular, followed closely by "Health" and "Metals for the Metalsmith." The opinion column was similarly well read. The articles of least interest to those responding were the roundtable discussions.

Suggestions for different areas that the magazine should cover ran the gamut from teaching and design to more information on industry and production jewelers. There were requests for articles both on marketing work and starting and running a small business and on various metalworking processes, including holloware forming and titanium anodizing. There was also demand for more critical essays on sculpture and architectural elements as well as trends and ideas. There was significant interest in the work of independent metalsmiths and jewelers. Some information requested is already provided in the Society of North American Goldsmiths' *Newsletter,* that is, information on competitions, techniques and tricks, product reviews. This more timely forum (the *Newsletter* is published bimonthly and mailed first class, whereas *Metalsmith* is published quarterly and mailed third class) is a clearinghouse for such information and announcements. Plans are already underway for its expansion and fuller coverage of these areas. (The *SNAG Newsletter* is available to society members and is included, as is a subscription to *Metalsmith,* in the General Member fee).

The clearest trends from the reader survey answers indicated a growing interest in nonacademic goldsmithing and jewelry design, as well as issues of integrity, quality and conceptualization in one-of-a-kind work.

The majority of the respondents made jewelry and many were also interested in holloware and enameling. A significant number made sculpture or small constructions.

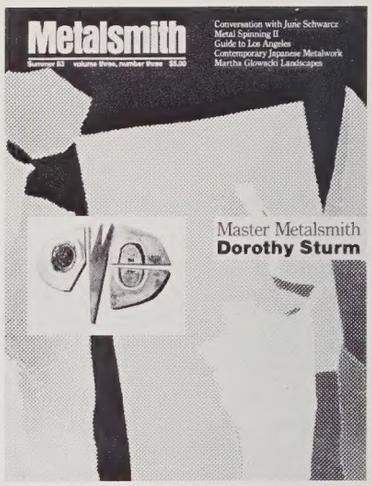
Three-quarters of the respondents were practicing metalsmiths or jewelers, while about one-third were teachers and a few were students. There was a sprinkling of gallery owners, curators, collectors and materials suppliers. An equal number of men and women responded to the survey.

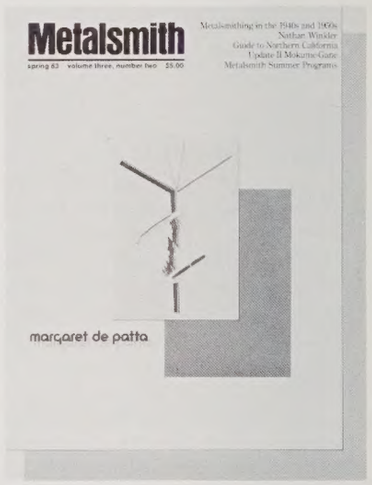
The split was fairly even on preferences for functional or sculptural work, with functional coming out a bit ahead, and many people finding interest in both.

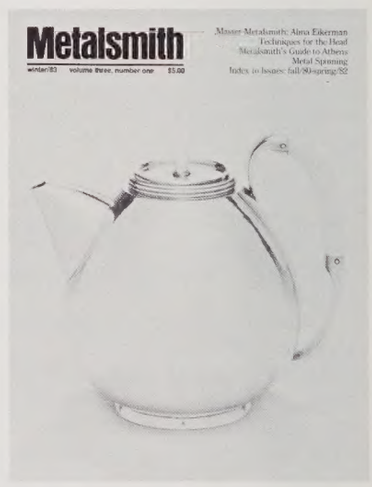
The answers to the question of what do you think is the most pressing issue in the metalsmithing community were quite varied, with survival—maintaining a high standard of craftsmanship while make a living—leading. This was followed predictably by educating students to make a living beyond becoming teachers, and educating the general public. Others stated concern over better design and growth in the basic concepts behind the creation of metalwork. Many felt a need for better communication among studio and academic jewelers and industry. An assortment of other answers included: finding an apprenticeship position; lack of standardized pricing; sharing information; critiques of work; integrating metalsmithing with other crafts; too much emphasis on technique; the high costs of tools, materials and workshops.

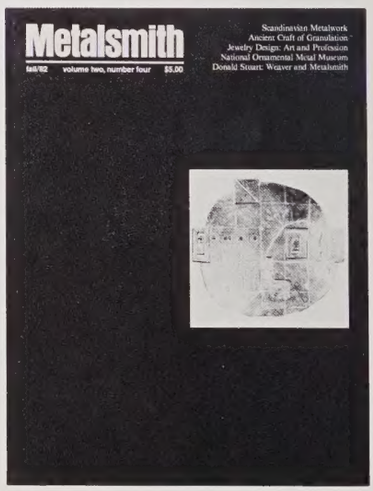
Further comments focused largely on the magazine itself. One person was pleased with the Margaret De Patta article, which appeared in the spring/83 issue, noting that it was important to introduce the younger generation of metalsmiths to the origins of contemporary jewelry and smithing in the United States during the 1930s-1950s. Some thought the magazine was nicely varied while others thought that it relied too heavily on a small group of metalsmiths and their work. There was a general desire for information about independent studio jewelers and a feeling that the magazine continues to improve. One jeweler wrote: "I really like the biographies. It makes me feel validated to share the attitudes and experiences of other people who love metal."

Reader surveys such as this are very helpful to the magazine staff and advisory board in evaluating the content and appropriateness of the magazine and in determining future direction. We sincerely thank all who took time to fill out the questionnaire and return it to us. ■









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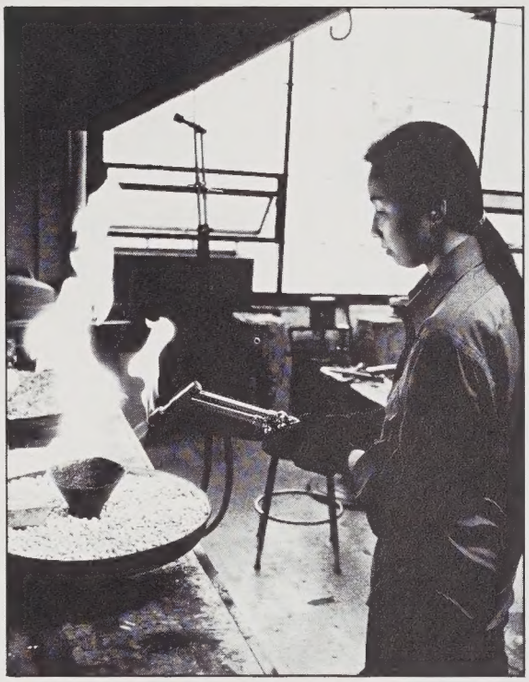

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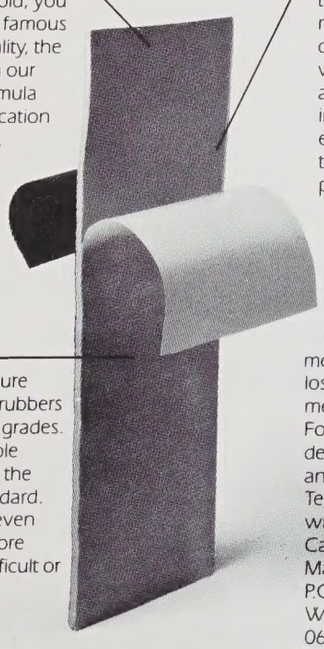

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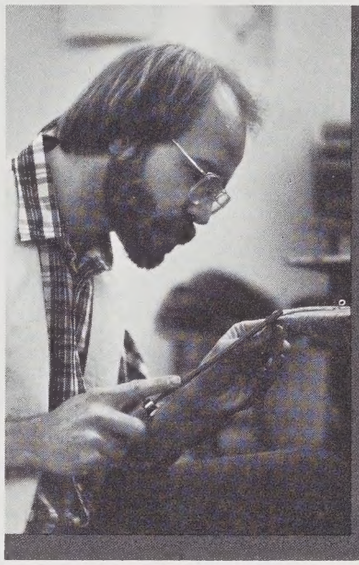

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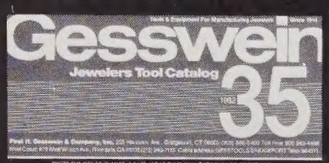

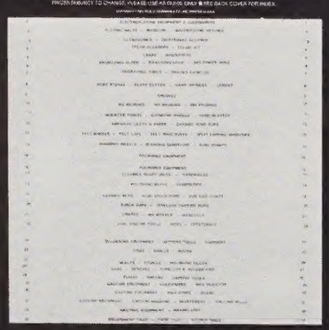

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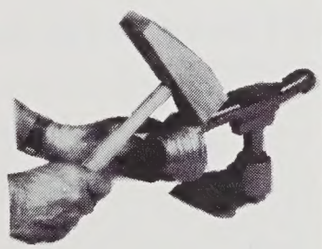

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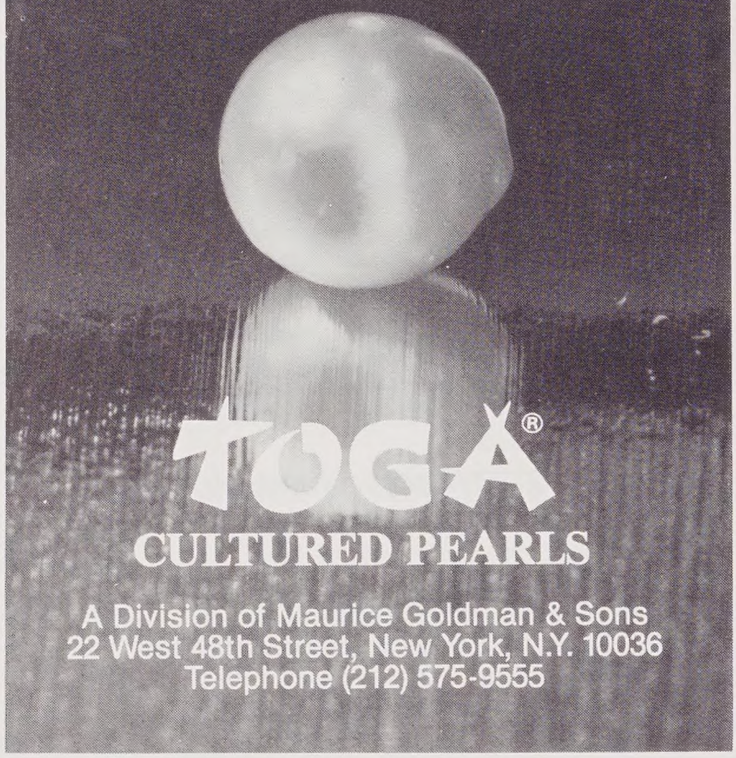

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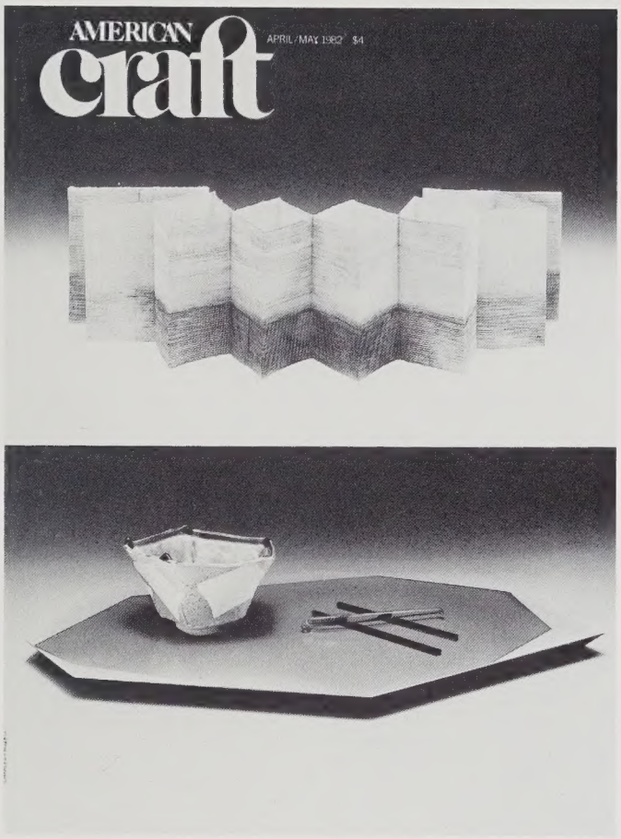

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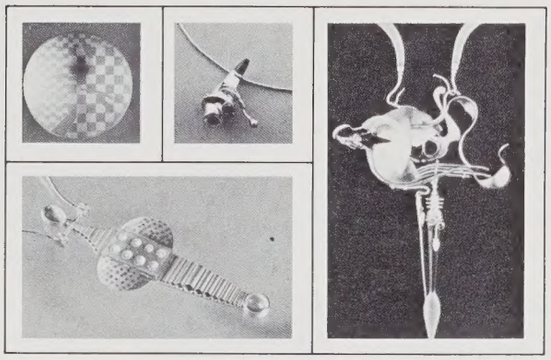

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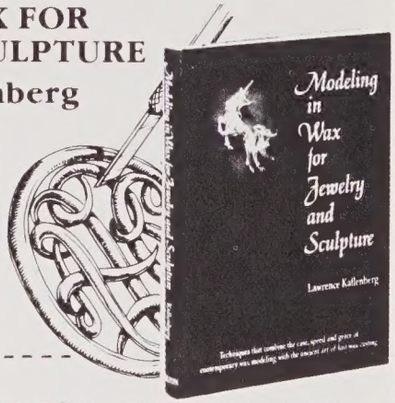

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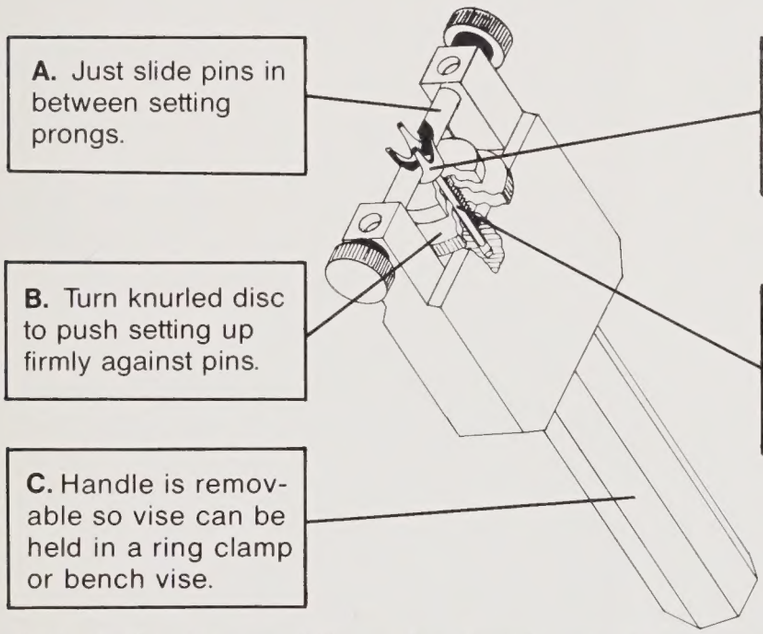

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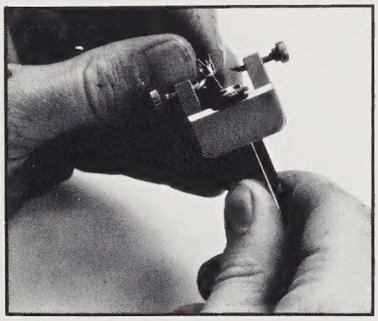

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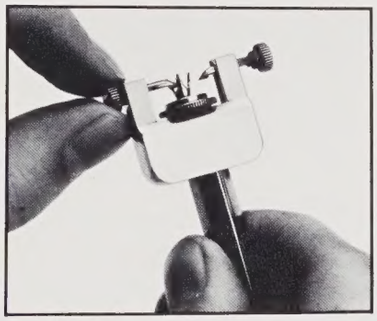
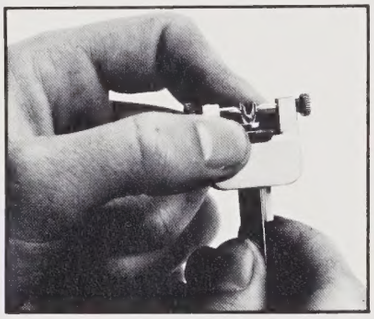


Slide the spring loaded arms over the setting, placing them between the prongs so that they are well out of the way of the prong tips.



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